

REPORT NUMBER: 214-CAL-08-01

**SAFETY COMPLIANCE TESTING FOR FMVSS 214
SIDE IMPACT PROTECTION
INDICANT**

**GENERAL MOTORS CORP
2008 CHEVROLET MALIBU
FOUR DOOR SEDAN**

NHTSA NUMBER: C80104

**PREPARED BY:
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Test Date: January 10, 2008

FINAL REPORT

**PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
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Technical Report Documentation Page

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16. Abstract A 55/28 km/h 90° Moving Deformable Barrier FMVSS 214 Indicant side impact was conducted on the subject 2008 Chevrolet Malibu Four Door Sedan to obtain new car assessment and research data indicant of FMVSS No. 214D performance. The test was conducted at the Calspan Corporation Transportation Sciences Center in Buffalo, New York, on January 10, 2008. The impact velocity of the Moving Deformable Barrier (MDB) was 61.16 km/h, and the ambient temperature at the struck side (driver side) of the vehicle was 21°C. The target vehicle's maximum post test static crush was 246 mm at level 3. The test vehicle's occupant performance is as follows: <table style="margin-left: auto; margin-right: auto; border: none;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>DRIVER</u></th> <th style="text-align: center;"><u>PASS.</u></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib (LUR) Accel., g</td> <td style="text-align: center;">52.2</td> <td style="text-align: center;">39.4</td> </tr> <tr> <td>Left Lower Rib (LLR) Accel., g</td> <td style="text-align: center;">43.7</td> <td style="text-align: center;">43.1</td> </tr> <tr> <td>Lower Spine (T₁₂) Accel., g</td> <td style="text-align: center;">55.2</td> <td style="text-align: center;">52.8</td> </tr> <tr> <td>Thoracic Trauma Index (TTI)</td> <td style="text-align: center;">54</td> <td style="text-align: center;">48</td> </tr> <tr> <td>Pelvis (PEV) Accel., g</td> <td style="text-align: center;">50</td> <td style="text-align: center;">59</td> </tr> <tr> <td>HIC</td> <td style="text-align: center;">129.7</td> <td style="text-align: center;">174.1</td> </tr> </tbody> </table> The doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.					<u>DRIVER</u>	<u>PASS.</u>	Left Upper Rib (LUR) Accel., g	52.2	39.4	Left Lower Rib (LLR) Accel., g	43.7	43.1	Lower Spine (T ₁₂) Accel., g	55.2	52.8	Thoracic Trauma Index (TTI)	54	48	Pelvis (PEV) Accel., g	50	59	HIC	129.7	174.1
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SECTION 1

PURPOSE AND TEST PROCEDURE

PURPOSE

This side impact test is part of the FMVSS 214 Side Impact Protection Compliance Test Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-07-D-00064. The purpose of this indicant test was to evaluate side impact protection in a 2008 Chevrolet Malibu Four Door Sedan when tested at the New Car Assessment Program (NCAP) target test velocity of 62.0 kph, which is 8 kph faster than the target velocity required by the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-08, dated December 15, 2006).

SECTION 2

SUMMARY OF FMVSS 214 INDICANT SIDE IMPACT TEST

This Side Impact Protection Indicant Test was performed at the New Car Assessment Program (NCAP) target test velocity of 62.0 kph, which is 8 kph faster than the target velocity required by the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-08, dated December 15, 2006).

A model year 2008 Chevrolet Malibu Four Door Sedan was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 61.16 km/h. The specified impact velocity range is from 61.1 to 62.7 km/h. The test (target) vehicle was stationary and positioned 63° to the line of forward motion. The weight of the vehicle as tested was 1787.0 kg and the test weight of the MDB was 1362.5 kg. The test was conducted at the Calspan Corporation Transportation Sciences Center on January 10, 2008.

One (1) real-time motion picture camera and nine (9) high-speed motion picture cameras were used to document the impact event. The pre-test and post-test conditions were recorded by one (1) real-time motion picture camera. Camera locations and pertinent camera information are documented in the data sheets. Pre- and post-test photographs of the vehicle and Side Impact Dummies (SID/HIIIs) can be found in Appendix A.

Two 50th percentile adult male SID/HIII's were placed in the driver (P1) and left rear passenger (P4) designated seating positions according to instructions specified in the Laboratory Test Procedure for New Car Assessment Program Side Impact Testing dated July 1997. Each SID/HIII was instrumented in the following locations:

- Left Upper Rib (LUR) uni-axial accelerometer (Y-axis primary and redundant)
- Left Lower Rib (LLR) uni-axial accelerometer (Y-axis primary and redundant)
- Lower Thoracic Spine (T12) uni-axial accelerometer (Y-axis primary and redundant)
- Pelvic (PEV) section uni-axial accelerometer (Y-axis primary and redundant)
- Head Center of Gravity (CG) tri-axial accelerometers (X, Y and Z axes primary and redundant)
- Upper Neck load cell (Fx, Fy, Fz, Mx, My, Mz)

The test vehicle was instrumented with twenty-one (21) structural accelerometers and the MDB was instrumented with five (5) accelerometers.

2.2 GENERAL COMMENTS

The test vehicle sustained a maximum static crush of 246 mm at level 3, 1650 mm rearward of the left vertical impact point. The driver and passenger SID/HIII's, Serial Nos. 269 and 270 respectively, were calibrated just prior to this test.

Test data and observations are presented in this section of the report. Appendix A contains the still photograph prints. Appendix B contains the driver and passenger SID/HIII's, vehicle, and MDB response data traces. Appendix C contains the SID/HIII's configuration and performance verification data. Appendix D contains the test equipment information.

The occupant data is summarized below:

ATD position	HIC(36)	T ₁	T ₂	TTI (G's)	Peak Pelvis (G's)
Driver	129.7	29.0	61.4	54	50
Passenger	174.1	40.2	69.0	48	59

SUPPLEMENTAL RESTRAINT INFORMATION

Restraint Type	Left Front (Driver)		Left Rear (Passenger)	
	Installed	Deployed	Installed	Deployed
Front Airbag	Yes	No	No	NA
Side Torso Airbag	Yes	Yes	No	NA
Side Head/Torso Combination Airbag	No	NA	No	NA
Curtain Airbag	Yes	Yes	Yes	Yes

The test instrumentation data listed in Appendix B can be found on the NHTSA website:
www.nhtsa.dot.gov.

DATA SHEET NO. 1**GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle:	2008 Chevrolet Malibu	NHTSA No.	C80104
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 10, 2008

TEST VEHICLE INFORMATION AND VEHICLE OPTIONS

Make	General Motors Corp	Driver Front Airbag	Yes
Model	Malibu	Driver Side Curtain Airbag	Yes
Body Style	Four Door Sedan	Driver Side Torso Airbag	Yes
NHTSA No.	C80104	Driver Pretensioners	Yes
VIN	1G1ZG57B98F16842	Driver Load Limiters	Yes
Color	Blue	Driver Power Seats	No
Engine Disp.(L)	2.4	Rear Pass. Side Curtain Airbag	Yes
Engine Cylinders	4	Rear Pass. Side Torso Airbag	No
Engine Placement	Lateral	Rear Pass. Pretensioners	No
Transmission Type	Automatic	Rear Pass. Load Limiters	No
Transmission Speeds	4	Rear Pass. Power Seats	NA
Final Drive	Front	Tilt Wheel	Yes
Air Conditioning	Yes	Anti-lock Brakes	Yes
Power Steering	Yes	Traction Control	Yes
Power Brakes	Yes	Power Windows	Yes
Delivery Date	12/11/2007	Power Door Locks	Yes
Odometer Reading (km)	79	Automatic Door Locks (ADL)	Yes
Dealer	West Herr Chevrolet	Owner's Manual Details Instructions on Disabling ADLs	No

DATA FROM CERTIFICATION LABEL

Manufactured By	General Motors Corp	GVWR (kg)	1987
Date of Manufacture	11/07	GAWR Front (kg)	1055
		GAWR Rear (kg)	932

VEHICLE CAPACITY DATA

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Split Bench		
Number Of Occupants	2	3		5
Capacity Wt. (VCW) (kg)				416.0
Cargo Wt. (RCLW) (kg)				75.8

DATA SHEET NO. 1 (continued)**GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle:	2008 Chevrolet Malibu	NHTSA No.	C80104
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 10, 2008

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW) (Axle)			Fully Loaded (Axle)			As Tested (ATW) (Axle)		
		Front	Rear	Total	Front	Rear	Total	Front	Rear	Total
Left	kg	471.5	318.0		521.0	427.5		524.0	404.5	
Right	kg	459.5	308.0		468.5	381.0		481.5	377.0	
Ratio	%	59.8	40.2		55.0	45.0		56.3	43.7	
Totals	kg	931.0	626.0	1557.0	989.5	808.5	1798.0	1005.5	781.5	1787.0

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1557.0
Weight of 2 P572M ATDs (81.2 kg each)	kg	162.4
Rated Cargo/Luggage Weight (RCLW)	kg	75.8
Calculated Vehicle Target Weight (TVTW)	kg	1795.2

* Actual As Tested Weight (ATW) will be TVTW -4.5/-9.1 kg

Weight of Ballast (including instrumentation package and cameras): 67.6 kg

TEST VEHICLE ATTITUDES

	Units	LF	RF	LR	RR
As Delivered	mm	717	730	726	733
Fully Loaded	mm	700	716	689	703
As Tested	mm	701	716	696	704

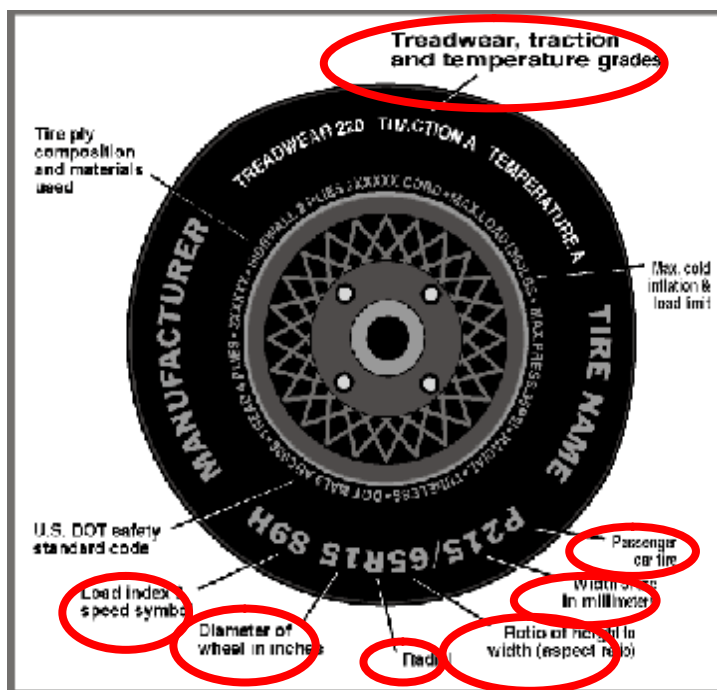
TEST VEHICLE VERTICAL IMPACT LINE AND CG

Measurement Description	Units	Value
Test Vehicle Wheel Base	mm	2850
Target Impact Point Aft of Front Axle	mm	485
Actual Impact Point Aft of Front Axle	mm	485
As Tested CG (aft of front axle)	mm	1246.38

DATA SHEET NO. 2

TEST VEHICLE TIRE INFORMATION

Test Vehicle:	2008 Chevrolet Malibu	NHTSA No.	C80104
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 10, 2008



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	240	240
Cold / Test Pressure (kPa)	210	210
Recommended Tire Size	P215/60/R16	P215/60/R16
Tire Size on Vehicle	P215/60/R16	P215/60/R16
Tire Manufacturer	Uniroyal	Uniroyal
Tire Name	Tiger Paw Touring SR	Tiger Paw Touring SR
Tire Type	Passenger	Passenger
Tire Width (mm)	215	215
Ratio of Height to Width (aspect ratio)	60	60
Radial	Yes	Yes
Wheel Diameter	16	16
Load Index & Speed Symbol	94S	94S
Treadwear	540	540
Traction Grade	A	A
Temperature Grade	B	B

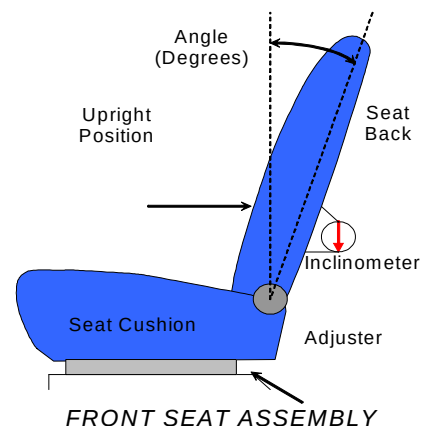
DATA SHEET NO. 3

TEST VEHICLE INFORMATION

Test Vehicle:	2008 Chevrolet Malibu	NHTSA No.	C80104
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 10, 2008

NORMAL DESIGN RIDING POSITION

The driver and passenger seat back is positioned to the manufacturer's designated angle.

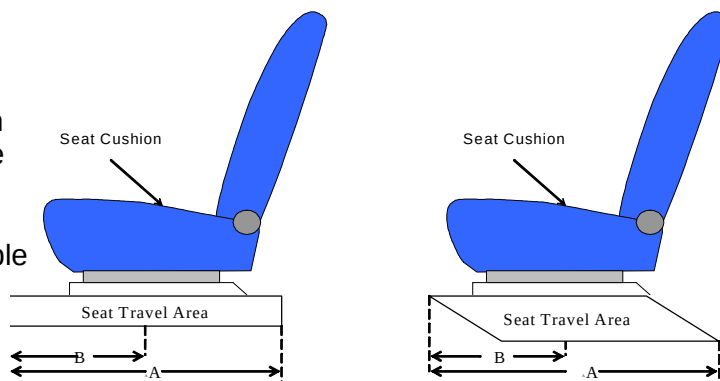


SEAT BACK POSITION

	Driver Seat	Rear Seat
Test Detent (forward-most detent defined as 0)	Not provided	Not Adjustable
Angle (deg. from forward-most locking position)	9°	Not Adjustable
Alternative Measurements to Verify Test Position	Recline to 19° on bottom center of seat back	NA

SEAT FORE/AFT POSITIONS

The total seat travel was measured from forward most position to rearmost position irrespective of vertical seat height in those positions. The seat was set at the longitudinal mid position with vertical adjustment at the lowest position obtainable for both the driver and passenger.



SEAT FORE/AFT POSITION

	Driver Seat	Rear Seat
Total Fore/Aft Travel (A) (mm)	274	Fixed
Test Position (B) (mm)	137	NA
Test Detent (forward-most detent defined as 0)	10	NA
Total Number of Detents (including 0)	24	NA

DATA SHEET NO. 3 (CONTINUED)

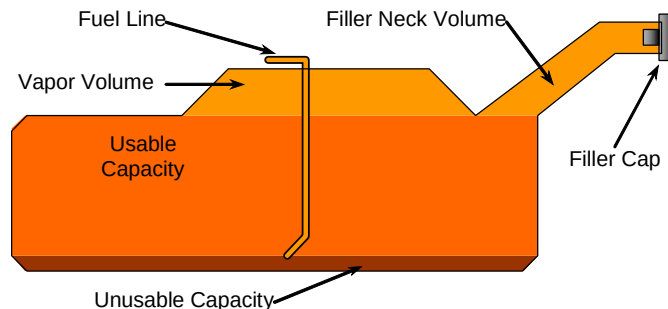
TEST VEHICLE INFORMATION

Test Vehicle: 2008 Chevrolet Malibu
Test Program: FMVSS 214 Indicant Side Impact

NHTSA No. C80104
Test Date: January 10, 2008

FUEL SYSTEM INFORMATION

The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed in the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the left rear fender. The standard fuel tank occupies the area under the rear seat.



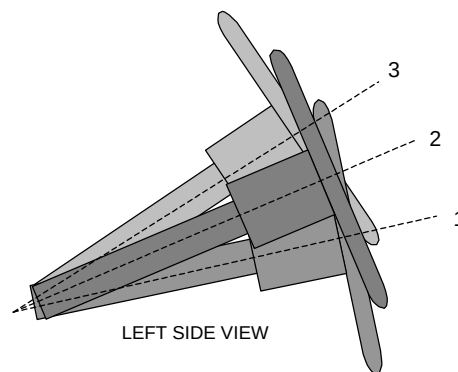
VEHICLE FUEL TANK ASSEMBLY

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard" Fuel Tank	61.7
Usable Capacity of "Optional" Fuel Tank	-
Stoddard Used For Test (92%-94% of Fuel Tank Usable Capacity)	58.0

STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when moved through its full range of motion. An aluminum plate is placed across the rim of the steering wheel, an inclinometer is placed on the plate and the angle is measured.



STEERING COLUMN ASSEMBLY

STEERING COLUMN POSITION

	Fore/Aft Position (mm)	Tilt (degrees)	Tilt (detent)
Lowermost Position No. 1	0	20	NA
Geometric Center Position No. 2 *	25	22	NA
Uppermost Position No. 3	50	24	NA

DATA SHEET NO. 4**MOVING DEFORMABLE BARRIER (MDB) SUMMARY OF RESULTS**

Test Vehicle:	2008 Chevrolet Malibu	NHTSA No.	C80104
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 10, 2008

MDB SPECIFICATIONS

Measurement Description	Length (mm)
Overall Width of Framework Carriage	1250
Overall Length Including Honeycomb Face	4120
Wheel base of Framework Carriage	2590
Tread of Framework Carriage (front & rear)	1875
C.G. Location aft of Front Axle	1104

MDB WEIGHTS

	Units	Front Axle	Rear Axle	Total
Left	kg	409.5	281.5	
Right	kg	372.5	299.0	
Ratio	%	57.4	42.6	
Totals	kg	782.0	580.5	1362.5

MDB SPEED AND IMPACT ANGLE DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.1 to 62.7	61.16
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	61.16
Impact angle with respect to impactor	°	88.5° to 91.5°	89.9°

POST TEST OBSERVATIONS**MDB LEFT EDGE IMPACT POINT DATA**

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	+/- 50	0 mm (on point)
Vertical Offset	mm	+/-20	15mm above

DATA SHEET NO. 5
POST TEST OBSERVATIONS

Test Vehicle:	2008 Chevrolet Malibu	NHTSA No.	C80104
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 10, 2008

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat SID/HIII	Rear Seat SID/HIII
Dummy Type / Serial No.	SID/HIII / 269	SID/HIII / 270
Head Contact	Side and top of head to the side curtain airbag	Side and top of head to the side curtain airbag
Upper Torso Contact	Side Torso Airbag	Door Trim Panel
Lower Torso Contact	Side Torso Airbag	Door Trim Panel
Left Knee Contact	Door Trim Panel	Door Trim Panel
Right Knee Contact	Left Knee	Left Knee

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

Description	Front	Rear
Locked/Unlocked Doors	Doors were locked	Doors were locked
Left Side Door Opening	Door remained closed and latched	Door remained closed and latched
Right Side Door Opening	Door remained closed and latched; Door opened without tools	Door remained closed and latched; Door opened without tools
Seat Movement	0	0
Seat Back Failure	None	None

POST TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	No Separation
Sill Separation	None
Windshield Damage	None
Window Damage	Left Rear Passenger Window Broke
Other Notable Effects	None

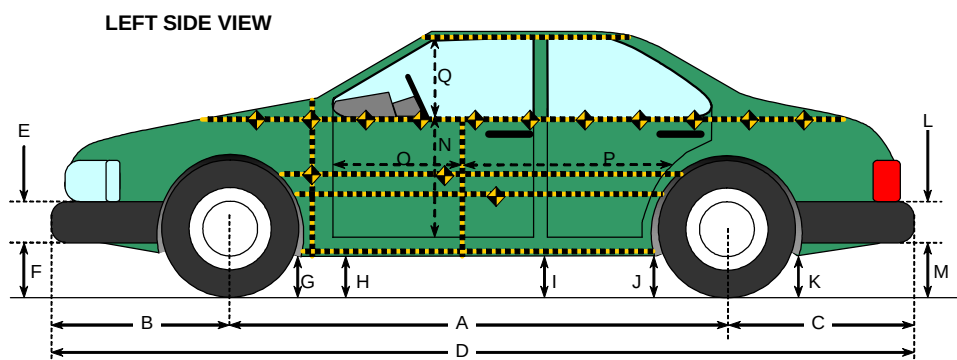
SUPPLEMENTAL RESTRAINT INFORMATION

Restraint Type	Left Front (Driver)		Left Rear (Passenger)	
	Installed	Deployed	Installed	Deployed
Front Airbag	Yes	No	No	NA
Side Torso Airbag	Yes	Yes	No	NA
Side Head/Torso Combination Airbag	No	NA	No	NA
Curtain Airbag	Yes	Yes	Yes	Yes

DATA SHEET NO. 6

VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

Test Vehicle:	2008 Chevrolet Malibu	NHTSA No.	C80104
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 10, 2008



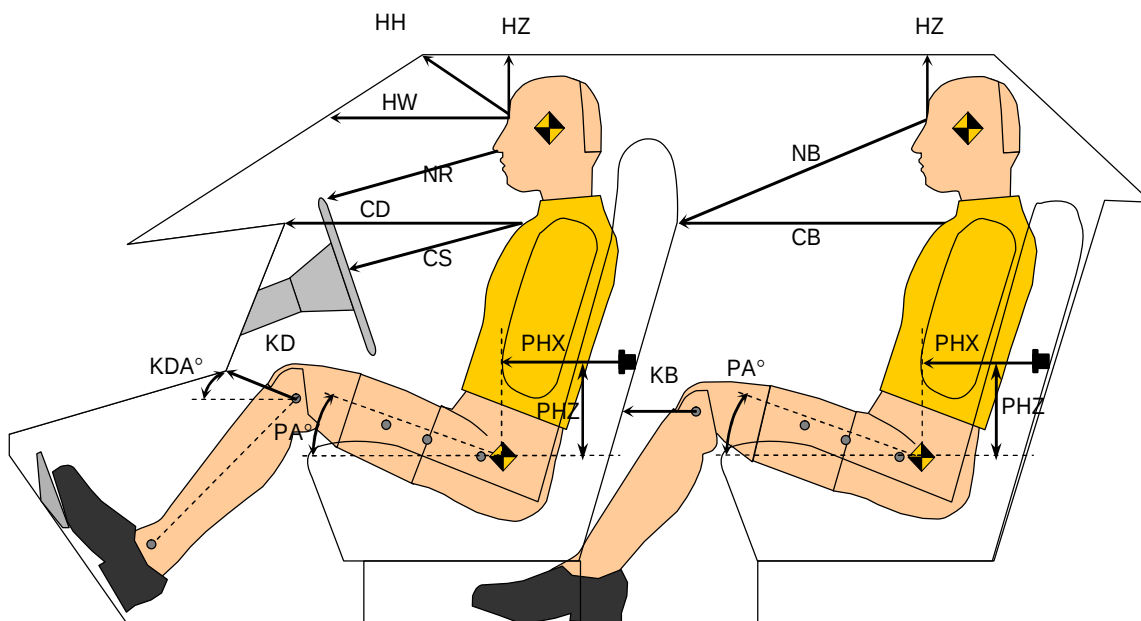
All Measurements in mm

Code	Measurement Description	Pre-Test (delivered)	Pre-Test (as tested)	Post-Test (as tested)	Difference
A	Wheelbase	2848	2850	2850	0
B	Front Axle to FSOV	983	982	991	-9
C	Rear Axle to RSOV	1023	1023	1013	10
D	Total Length at Centerline	4855	4855	4853	2
E	Front Bumper Thickness	170	170	168	2
F	Front Bumper Bottom to Ground	370	366	377	-11
G	Sill Height at Front Wheel Well	155	137	125	12
H	Sill Height at Front Door Leading Edge	167	149	183	-34
I	Sill Height at "B" Pillar	192	163	192	-29
J1	Sill Height at Rear Wheel Well	200	163	183	-20
J2	Pinch Weld Height at Rear Wheel Well	205	168	180	-12
K	Sill Height Aft of Rear Wheel Well	227	186	196	-10
L	Rear Bumper Thickness	280	280	280	0
M	Rear Bumper Bottom to Ground	422	375	387	-12
N	Sill Height to Window Bottom Sill	706	706	631	75
O	Front Door Leading Edge to Impact CL	885	885	803	82
P	Rear Door Trailing Edge to Impact CL	1204	1204	1104	100
Q	Front Window Opening	429	429	423	6
R	Right Side Length	4712	4712	4712	0
S	Left Side Length	4712	4712	4704	8
T	Vehicle Width at "B" Post	1743	1743	1637	106

DATA SHEET NO. 7

SID/HIII LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle:	2008 Chevrolet Malibu	NHTSA No.	C80104
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 10, 2008

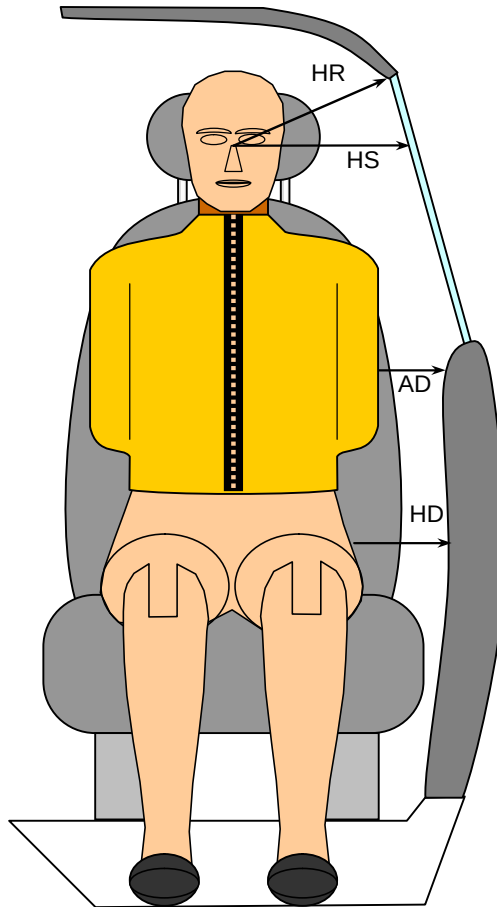


Driver Code	Pass. Code	Measurement Description	Driver S/N 269		Passenger S/N 270	
			Length(mm)	Angle(°)	Length(mm)	Angle(°)
HH		Head to Header	388			
HW		Head to Windshield	620			
HZ	HZ	Head to Roof	156		156	
NR	NB	Nose to Rim/Nose to Seatback	465		654	
CD	CB	Chest to Dash or Seatback	552		578	
CS		Chest to Steering Wheel	382			
KDL	KBL	Left Knee to Dash or Seatback	185	35	275	29
KDR	KBR	Right Knee to Dash or Seatback	170	32	265	21
PA	PA	Pelvic Angle		23.5		23.0
PHX	PHX	H-Point to Striker (X-Axis)	205		308	
PHZ	PHZ	H-Point to Striker (Z-Axis)	165		301	

DATA SHEET NO. 8

SID/HIII LATERAL CLEARANCE DIMENSIONS

Test Vehicle:	2008 Chevrolet Malibu	NHTSA No.	C80104
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 10, 2008

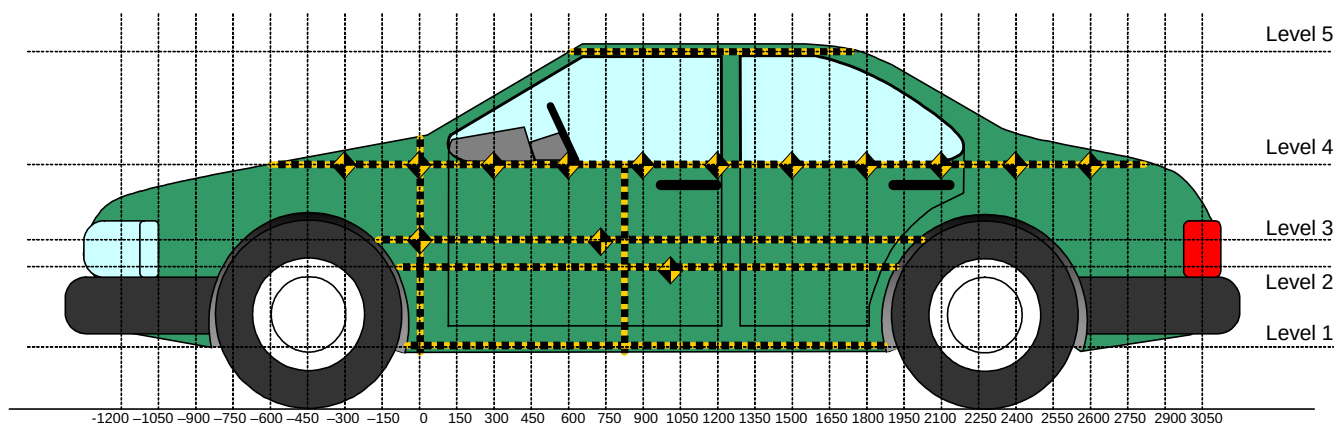


FRONT VIEW OF DUMMY

Code	Measurement Description	Units	Driver S/N 269	Passenger S/N 270
HR	Head to Side Header	mm	168	148
HS	Head to Side Window	mm	325	325
AD ₁	Arm to Door (at upper rib level)	mm	107	89
AD ₂	Arm to Door (at lower rib level)	mm	125	107
HD	H-Point to Door	mm	148	158

DATA SHEET NO. 9
VEHICLE SIDE MEASUREMENTS

Test Vehicle:	2008 Chevrolet Malibu	NHTSA No.	C80104
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 10, 2008



All Measurements Shown in mm

LEFT SIDE VIEW

Measurements are taken with vehicle in the as tested condition.
Measurements along the vertical 750 mm.
All measurements below in mm.

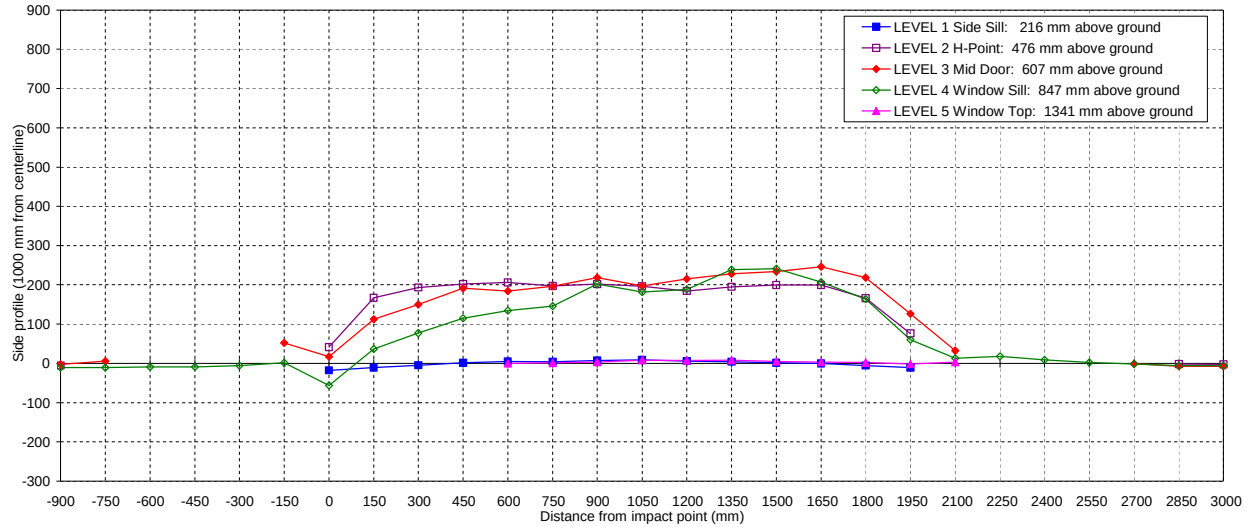
Level	Measurement Description	Maximum Exterior Static Crush	Height Above Ground	Distance From Impact
1	Sill Top	9	216	1050
2	Occupant H-Point	206	476	600
3	Mid Door	246	607	1650
4	Window Sill	241	847	1500
5	Window	8	1341	1050
	Maximum Penetration	246		

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2008 Chevrolet Malibu
Test Program: FMVSS 214 Indicant Side Impact

NHTSA No. C80104
Test Date: January 10, 2008



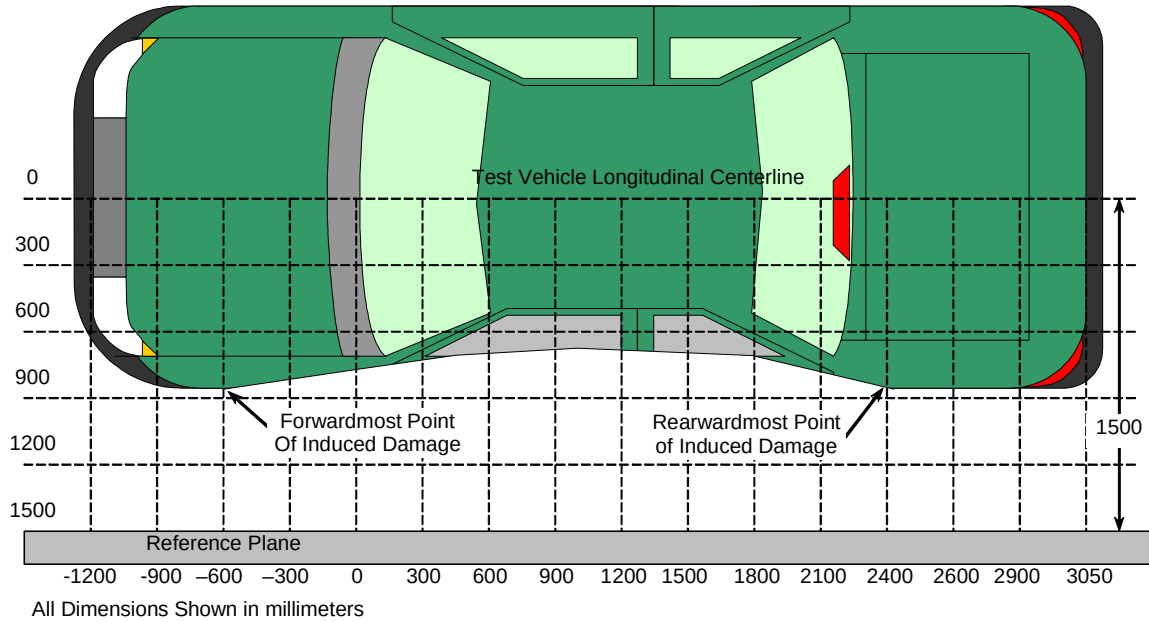
NOTE: All dimensions are in millimeters with a tolerance of ± 3 mm

			DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT																											
LEVEL	HEIGHT (mm)		-900	-750	-600	-450	-300	-150	0	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000	
LEVEL 1 SIDE SILL	216	PRE	--	--	--	--	--	--	152	151	152	153	152	154	153	151	153	153	153	153	154	152	--	--	--	--	--	--	--	
		POST	--	--	--	--	--	--	134	140	147	154	157	158	160	160	159	157	154	153	148	141	--	--	--	--	--	--	--	
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	-18	-11	-5	1	5	4	7	9	6	4	1	0	-6	-11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
LEVEL 2 H POINT	476	PRE	139	--	--	--	--	--	119	119	119	119	118	118	118	117	119	120	121	122	124	117	--	--	--	--	--	170	196	
		POST	133	--	--	--	--	--	160	286	312	321	324	315	320	313	303	315	320	321	290	193	--	--	--	--	--	168	193	
		CRUSH	-6	N/A	N/A	N/A	N/A	N/A	41	167	193	202	206	197	202	196	184	195	199	199	166	76	N/A	N/A	N/A	N/A	N/A	-2	-3	
LEVEL 3 MID DOOR	607	PRE	156	115	--	--	--	106	111	111	110	110	109	109	109	108	110	110	109	109	112	119	110	--	--	--	134	181	199	
		POST	153	121	--	--	--	158	128	223	260	301	293	305	327	305	325	338	343	355	330	245	142	--	--	--	133	174	192	
		CRUSH	-3	6	N/A	N/A	N/A	52	17	112	150	191	184	196	218	197	215	228	234	246	218	126	32	N/A	N/A	N/A	-1	-7	-7	
LEVEL 4 WINDOW SILL	847	PRE	409	312	206	180	166	157	150	144	139	133	130	128	98	114	124	124	126	129	133	144	144	154	165	177	190	207	226	
		POST	398	301	197	171	160	158	94	181	216	248	264	274	300	296	312	363	367	336	297	204	157	172	174	179	188	201	220	
		CRUSH	-11	-11	-9	-9	-6	1	-56	37	77	115	134	146	202	182	188	239	241	207	164	60	13	18	9	2	-2	-6	-6	
LEVEL 5 WINDOW TOP	1341	PRE	--	--	--	--	--	--	--	--	--	--	--	626	407	399	398	400	402	405	407	415	435	691	--	--	--	--	--	
		POST	--	--	--	--	--	--	--	--	--	--	--	626	408	402	406	407	410	410	410	417	433	694	--	--	--	--	--	
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	1	3	8	7	8	5	3	2	-2	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A

DATA SHEET NO. 11

VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle:	2008 Chevrolet Malibu	NHTSA No.	C80104
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 10, 2008



TOP VIEW

DAMAGE PROFILE DISTANCES

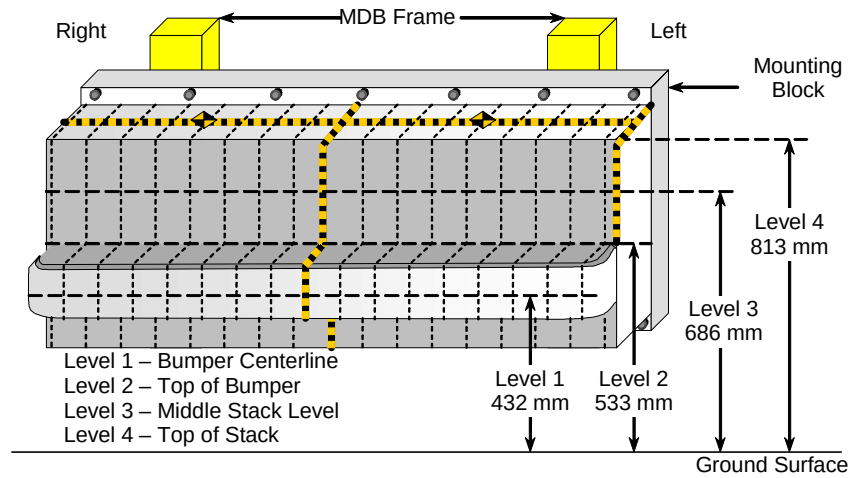
DPD	Distance from Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max Static Crush (mm)
1 (LR)	2600	847	181	182	1
2	2040	607	114	183	69
3	1480	847	126	366	240
4	920	607	109	324	215
5	360	476	119	316	197
6 (LF)	-200	847	160	159	-1

Reference plane is parallel to test vehicle longitudinal centerline.
 Given dimensions = Reference plane to vehicle body.

DATA SHEET NO. 12

DEFORMABLE BARRIER HONEYCOMB FACE STATIC CRUSH

Test Vehicle:	2008 Chevrolet Malibu	NHTSA No.	C80104
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 10, 2008



NOTE: All dimensions are in millimeters with a tolerance of ± 3 mm

			DISTANCE RIGHT OF CENTER (mm)										DISTANCE LEFT OF CENTER (mm)							
LEVEL	HEIGHT AT CL (mm)*		-800	-700	-600	-500	-400	-300	-200	-100	0	100	200	300	400	500	600	700	800	
LEVEL 4 TOP STACK	-811	PRE	411	412	412	412	412	412	413	413	413	413	413	413	413	413	413	413	412	
		POST	334	376	409	409	400	383	358	372	357	357	360	357	356	356	336	304	270	
		CRUSH	77	36	3	3	12	29	55	41	56	56	53	56	57	57	77	109	142	
LEVEL 3 MID LEVEL	-682	PRE	411	411	412	412	412	412	412	412	413	412	412	412	412	412	412	412	412	
		POST	340	383	391	389	387	384	364	377	379	384	387	386	381	373	360	336	293	
		CRUSH	71	28	21	23	25	28	48	35	34	28	25	26	31	39	52	76	119	
LEVEL 2 TOP BUMPER	-542	PRE	411	412	412	412	412	412	412	412	413	412	412	412	412	412	412	412	412	
		POST	274	286	287	289	290	294	297	299	303	309	314	317	320	324	327	328	310	
		CRUSH	137	126	125	123	122	118	115	113	110	103	98	95	92	88	85	84	102	
LEVEL 1 MID BUMPER	-430	PRE	501	513	513	513	513	513	513	514	514	514	514	514	514	514	514	514	505	
		POST	309	328	332	333	334	331	323	344	351	356	361	366	371	376	380	383	375	
		CRUSH	192	185	181	180	179	182	190	170	163	158	153	148	143	138	134	131	130	

*Heights measured above ground level.

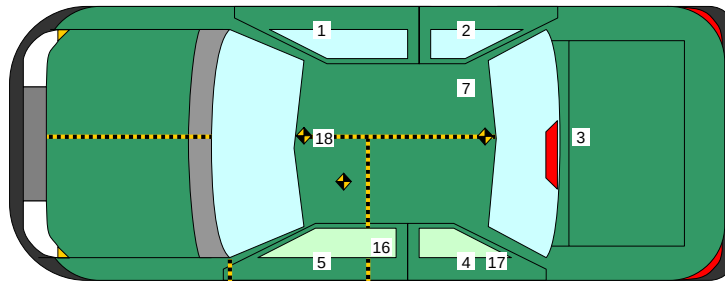
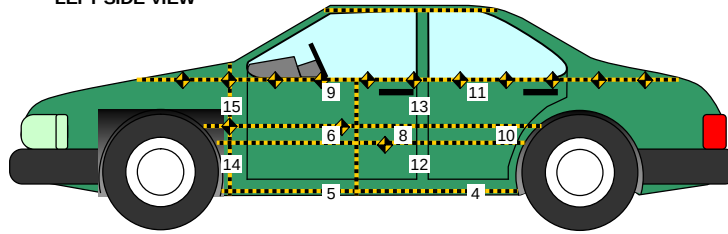
LEVEL	HEIGHT AT CL (mm)*	MAX CRUSH
LEVEL 4 TOP STACK	-811	142
LEVEL 3 MID LEVEL	-682	119
LEVEL 2 TOP BUMPER	-542	137
LEVEL 1 MID BUMPER	-430	192

DATA SHEET NO. 13

VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle:	2008 Chevrolet Malibu	NHTSA No.	C80104
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 10, 2008

LEFT SIDE VIEW



Loc. No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	Right Sill at Front Seat	3200	651	-297
2	Right Sill at Rear Seat	2048	644	-271
3	Rear Floorpan Above Axle	1202	8	-526
4	Left Sill at Rear Door	2013	-644	-263
5	Left Sill at Front Door	3242	-639	-299
6	Left Front Door C/L**	-	-	-
7	Rear Occupant Compartment	2043	356	-215
8	Left Front Door Mid-Rear**	-	-	-
9	Left Front Door Upper C/L**	-	-	-
10	Left Rear Door Mid-Rear**	-	-	-
11	Left Rear Door Upper C/L**	-	-	-
12	Left Lower B-Post	2245	-680	-412
13	Left Middle B-Post	2223	-682	-647
14	Left Lower A-Post	3320	-641	-320
15	Left Middle A-Post	3338	-670	-968
16	Front Seat Track	2434	-571	-286
17	Rear Seat Track or Structure	2018	-640	-248
18	Vehicle CG	2667	-1	-441

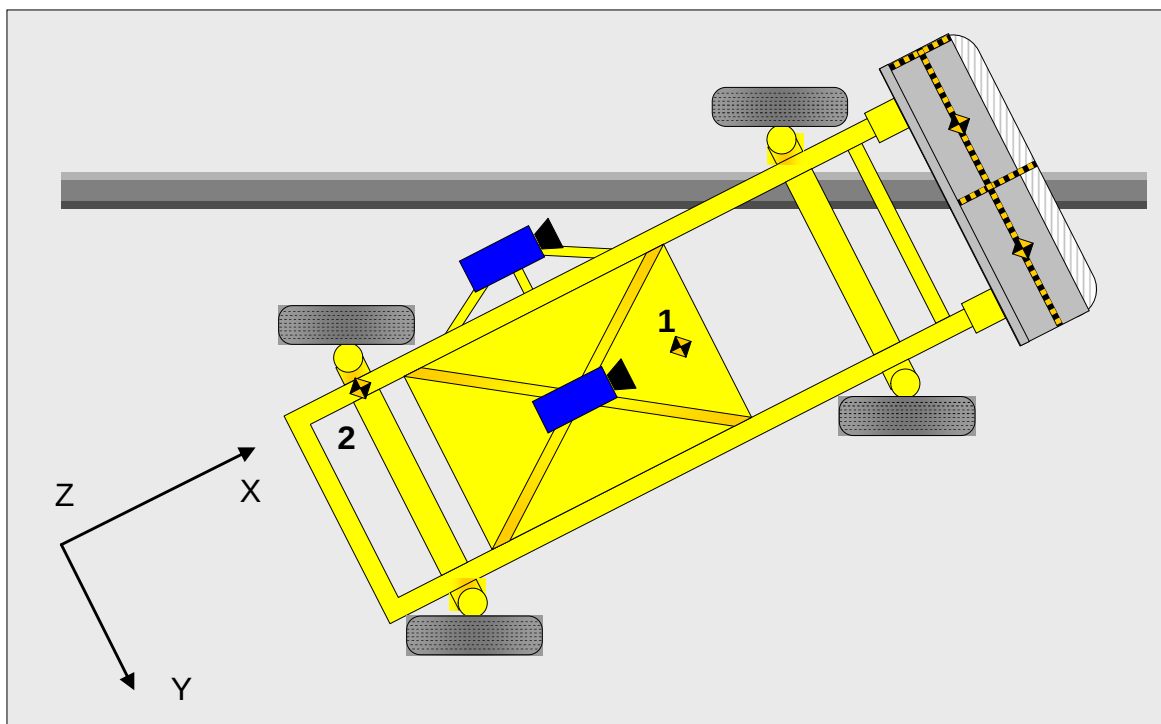
Reference Points X - Test Vehicle Rear Bumper (+ forward)
 Y - Test Vehicle Centerline (+ to right)
 Z - Ground Plane (+ down)

** Accelerometer was not requested by the COTR.

DATA SHEET NO. 14

MDB ACCELEROMETER LOCATIONS

Test Vehicle:	2008 Chevrolet Malibu	NHTSA No.	C80104
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 10, 2008



Loc. No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	MDB CG	1859	0	-330
2	MDB Rear	386	-660	-660

Reference Points X - MDB Rear Bumper (+ forward)
 Y - MDB Centerline (+ to right)
 Z - Ground Plane (+ down)

DATA SHEET NO. 15**VEHICLE STRUCTURAL MEASUREMENTS**

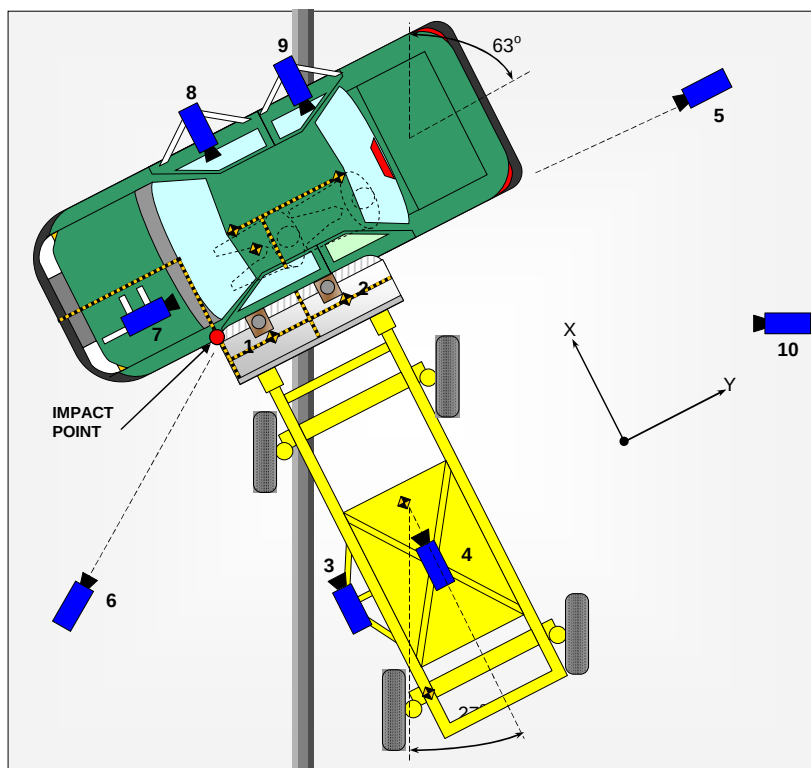
Test Vehicle:	2008 Chevrolet Malibu	NHTSA No.	C80104
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 10, 2008

	Elements	Pre-Test (mm)
1	Total Length	4855
2	Total Width	1743
3	Bumper Top Height	503
4	Bumper Bottom Height	391
5	Longitudinal Member Top Height	551
6	Distance between Longitudinal Members	1083
7	Longitudinal Member Width	102
8	Engine Top Height	868
9	Engine Bottom Height	179
10	Engine and gearbox width	738
11	Front bumper-engine distance	473
12	Front shock absorber fixing height	848
13	Bonnet leading edge height	786
14	Front shock absorber fixing width	1142
15	Front bumper – front axle distance	983
16	Front axle – a pillar distance	1115
17	A-pillar – B-pillar distance	1088
18	B-Pillar – rear axle distance	1277
19	B-pillar – C-pillar distance	1167
20	Roof sill bottom height	1333
21	Roof sill top height	1393
22	Floor sill bottom height	170
23	Floor sill top height	267

DATA SHEET NO. 16

HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle:	2008 Chevrolet Malibu	NHTSA No.	C80104
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 10, 2008



No.	Camera View	Location (mm)			Angle (deg)	Lens (mm)	Film Speed (fps)
		X	Y	Z			
1	Overhead Close-up	72	812	-4880	-90	20	500
2	Overhead Overall	195	855	-4880	-90	28	500
3	MDB Onboard, Impact Point Close-up	-1470	0	-847	0	12.5	500
4	MDB Onboard, Centerline of Impact	-1140	838	-1587	-17	25.0	500
5	Right Side, Ground Level, Overall	50	10060	-920	-2.3	50	500
6	Left Side, Ground Level, Overall	-2072	-1831	-919	-4.3	28	500
7	Vehicle Onboard Front SID/HIII, Front	485	470	-1245	-8.7	25	1000
8	Vehicle Onboard Front SID/HIII, Side	1632	742	-1075	-8.5	12.5	1000
9	Vehicle Onboard Rear SID/HIII, Side	1632	1712	-1110	-8.2	12.5	1000
10	Real Time Coverage						30

Reference Points

- X - Impact Line
- Y - MDB Left Edge Impact Point
- Z - Ground Plane

DATA SHEET NO. 17
SUMMARY OF FMVSS 301 DATA

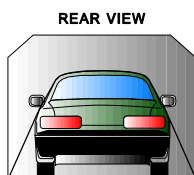
Test Vehicle:	2008 Chevrolet Malibu	NHTSA No.	C80104
Test Program:	FMVSS 214 Indicant Side Impact	Test Date:	January 10, 2008

FUEL SYSTEM INTEGRITY POST IMPACT DATA

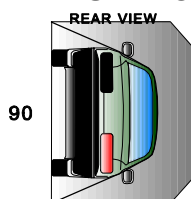
Time Interval	FMVSS 301 Maximum Allowable Spillage	Spillage (g)
Impact Until Motion Ceases	28 g	0
First Five Minutes Following Impact	142 g	0
Next 25 Minutes	28 g / 1 minute	0

Spillage Location(s)	None
----------------------	------

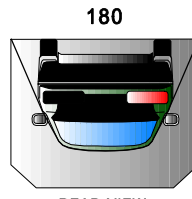
STATIC ROLLOVER DATA



0/360

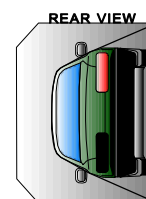


90



180

REAR VIEW



270

Rollover Stage	Rotation Time (spec. 1 -3 min)				FMVSS 301 Hold Time		Total Time				Next Whole Minute Interval	
0° - 90°	1	minutes	09	seconds	5	minutes	6	minutes	9	seconds	7	minutes
90° - 180°	1	minutes	10	seconds	5	minutes	6	minutes	10	seconds	7	minutes
180°-270°	1	minutes	01	seconds	5	minutes	6	minutes	1	seconds	7	minutes
270°-360°	1	minutes	13	seconds	5	minutes	6	minutes	13	seconds	7	minutes

Rollover Stage	Spillage (g)			
	First 5 min. from onset of rotation	6 th min.	7 th min.	8 th min. (if required)
0° - 90°	0	0	0	0
90° - 180°	0	0	0	0
180°-270°	0	0	0	0
270°-360°	0	0	0	0
FMVSS 301 Maximum Allowable (for each 90° stage)	142	28	28	28

Rollover Stage	Spillage Location(s)
0° - 90°	None
90° - 180°	None
180°-270°	None
270°-360°	None

APPENDIX A
PHOTOGRAPHS

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Figure A-1: As Received Left Front $\frac{3}{4}$ View



Figure A-2: As Received Right Rear $\frac{3}{4}$ View

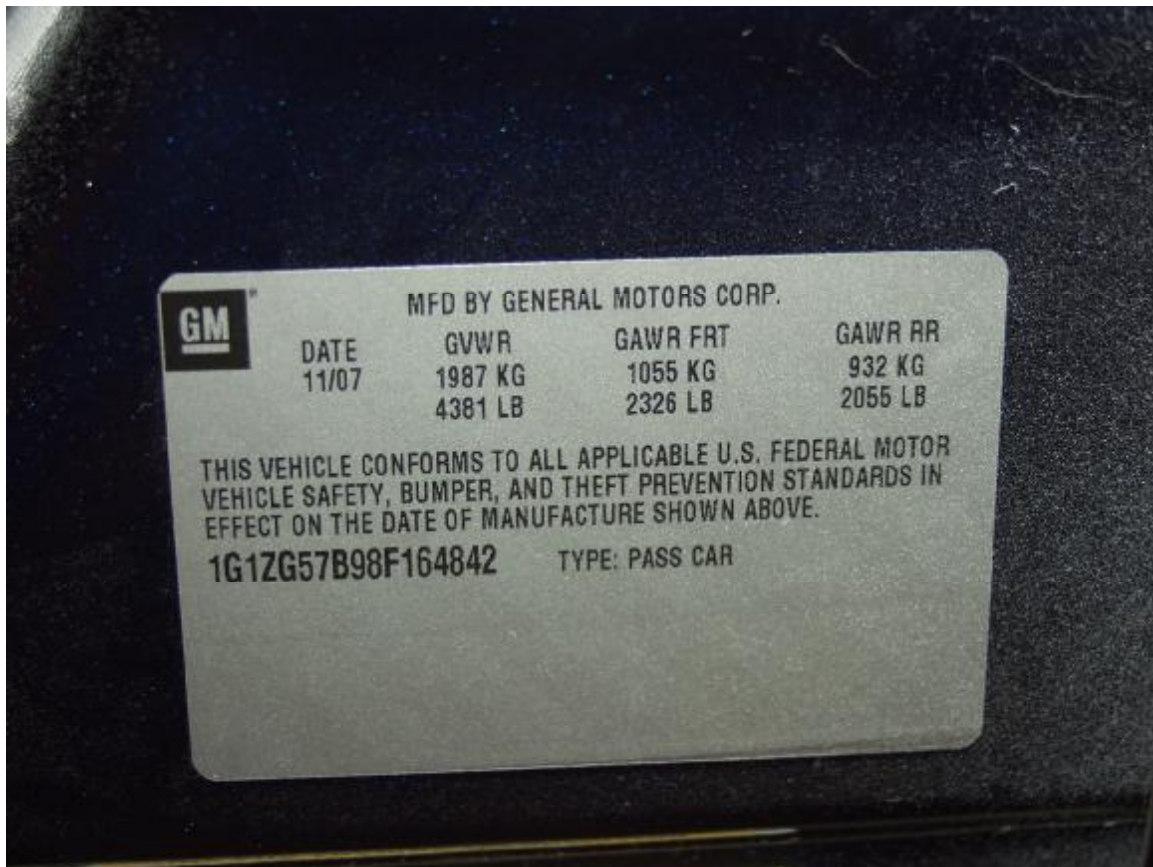


Figure A-3: Vehicle Certification Label



Figure A-4: Vehicle Tire Placard Label



Figure A-5: Pre-Test Front View



Figure A-6: Post-Test Front View



Figure A-7: Pre-Test Left Front $\frac{3}{4}$ View



Figure A-8: Post-Test Left Front $\frac{3}{4}$ View



Figure A-9: Pre-Test Left Side View



Figure A-10: Post-Test Left Side View



Figure A-11: Pre-Test Left Rear $\frac{3}{4}$ View



Figure A-12: Post-Test Left Rear $\frac{3}{4}$ View



Figure A-13: Pre-Test Rear View



Figure A-14: Post-Test Rear View



Figure A-15: Pre-Test Right Rear $\frac{3}{4}$ View



Figure A-16: Post-Test Right Rear $\frac{3}{4}$ View



Figure A-17: Pre-Test Right Side View



Figure A-18: Post-Test Right Side View



Figure A-19: Pre-Test Right Front $\frac{3}{4}$ View



Figure A-20: Post-Test Right Front $\frac{3}{4}$ View



Figure A-21: Pre-Test Frontal View of MDB Impactor Face



Figure A-22: Post-Test Frontal View of MDB Impactor Face



Figure A-23: Pre-Test Left Side View of MDB Impactor Face



Figure A-24: Post-Test Left Side View of MDB Impactor Face



Figure A-25: Pre-Test Right Side View of MDB Impactor Face



Figure A-26: Post-Test Right Side View of MDB Impactor Face



Figure A-27: Pre-Test Top View of MDB Impactor Face



Figure A-28: Post-Test Top View of MDB Impactor Face



Figure A-29: Pre-Test Left Side View of Aligned MDB and Vehicle



Figure A-30: Pre-Test Right Side View of Aligned MDB and Vehicle

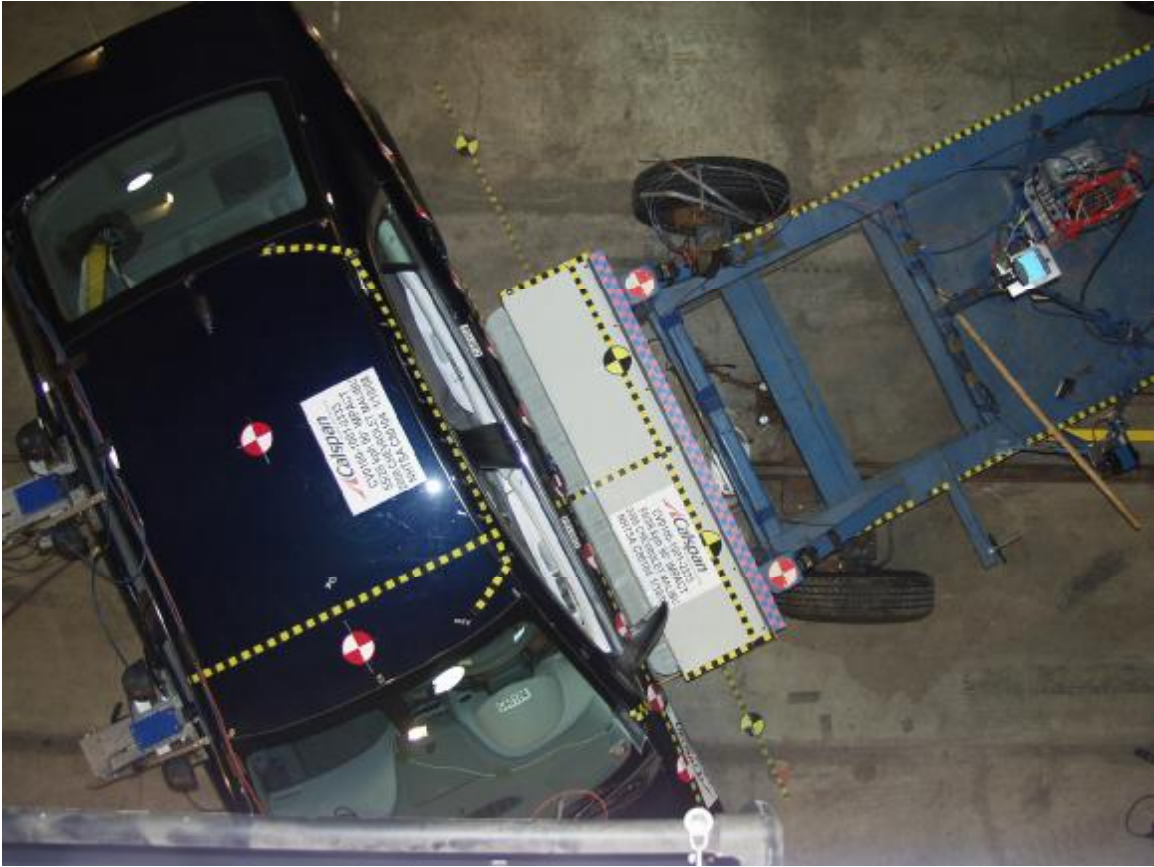


Figure A-31: Pre-Test Overhead View of Aligned MDB and Vehicle

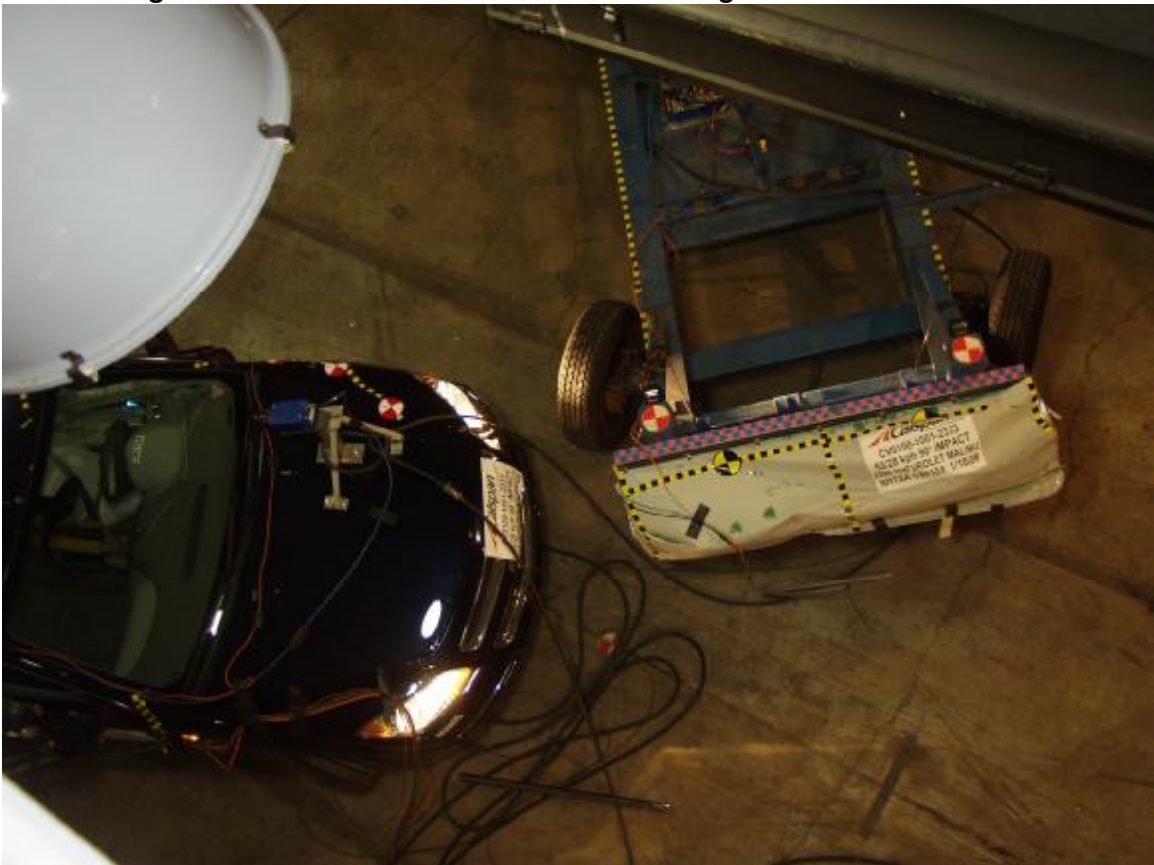


Figure A-32: Post-Test Overhead View of MDB and Vehicle



Figure A-33: Pre-Test Close-Up View of Impact Point Target



Figure A-34: Post-Test Close-Up View of Impact Point Target



Figure A-35: Pre-Test Right Occupant Compartment View of Driver



Figure A-36: Post-Test Right Occupant Compartment View of Driver



Figure A-37: Pre-Test Right Occupant Compartment View of Passenger



Figure A-38: Post-Test Right Occupant Compartment View of Passenger



Figure A-39: Pre-Test Left Occupant Compartment View of Driver



Figure A-40: Post-Test Left Occupant Compartment View of Driver



Figure A-41: Pre-Test Left Occupant Compartment View of Passenger



Figure A-42: Post-Test Left Occupant Compartment View of Passenger



Figure A-43: Pre-Test Left Front Interior Trim



Figure A-44: Post-Test Left Front Interior Trim



Figure A-45: Pre-Test Left Rear Interior Trim



Figure A-46: Post-Test Left Rear Interior Trim



Figure A-47: Pre-Test Left Front $\frac{3}{4}$ View of Left Side Doors



Figure A-48: Post-Test Left Front $\frac{3}{4}$ View of Left Side Doors



Figure A-49: Pre-Test Left Rear $\frac{3}{4}$ View of Left Side Doors



Figure A-50: Post-Test Left Rear $\frac{3}{4}$ View of Left Side Doors



Figure A-51: Rollover 90 Degrees



Figure A-52: Rollover 180 Degrees



Figure A-53: Rollover 270 Degrees



Figure A-54: Rollover 360 Degrees



Figure A-55: Impact Photo

APPENDIX B
SID/HIII, VEHICLE AND MDB RESPONSE DATA
(SAE sign convention)

DATA CHANNEL FILTER CLASS SUMMARY

Data Type	SAE Filter Class
Dummy Head Accelerations	CFC 1000
Rib Accelerations	FIR 100
Spine Accelerations	FIR 100
Pelvis Accelerations	FIR 100

DATA CHANNEL TITLE KEY

Prefix	Suffix
V1 = Vehicle 1 (Moving Barrier)	Ax = Acceleration, X-direction
V2 = Vehicle 2 (Test Vehicle)	Ay = Acceleration, Y-direction
P1 = Left Front Seating Position (Driver)	Az = Acceleration, Z-direction
P4 = Left Second Row Seating Position (Passenger)	Fx = Force, X-direction
A1-A18 = Accelerometer Location Number	Fy = Force, Y-direction
	Fz = Force, Z-direction
	Mx = Moment about X
	My = Moment about Y
	Mz = Moment about Z

TABLE OF DATA PLOTS

PLOT	PLOT NAME[UNITS, CHANNEL FILTER CLASS]	PAGE
1	V2P1 Head Ax [g, CFC_1000]	B-5
2	V2P1 Head Ay [g, CFC_1000]	B-5
3	V2P1 Head Az [g, CFC_1000]	B-5
4	V2P1 Head Ar [g, CFC_1000]	B-5
5	V1P1 Upper Rib Ay [g, FIR_100]	B-6
6	V1P1 Lower Rib Ay [g, FIR_100]	B-6
7	V1P1 Lower Spine Ay [g, FIR_100]	B-6
8	V1P1 Pelvic Ay [g, FIR_100]	B-6
9	V2P4 Head Ax [g, CFC_1000]	B-7
10	V2P4 Head Ay [g, CFC_1000]	B-7
11	V2P4 Head Az [g, CFC_1000]	B-7
12	V2P4 Head Ar [g, CFC_1000]	B-7
13	V1P4 Upper Rib Ay [g, FIR_100]	B-8
14	V1P4 Lower Rib Ay [g, FIR_100]	B-8
15	V1P4 Lower Spine Ay [g, FIR_100]	B-8
16	V1P4 Pelvic Ay [g, FIR_100]	B-8

The following dummy, vehicle and load cell response data can be found in the research and development section of the NHTSA website at: www.nhtsa.dot.gov

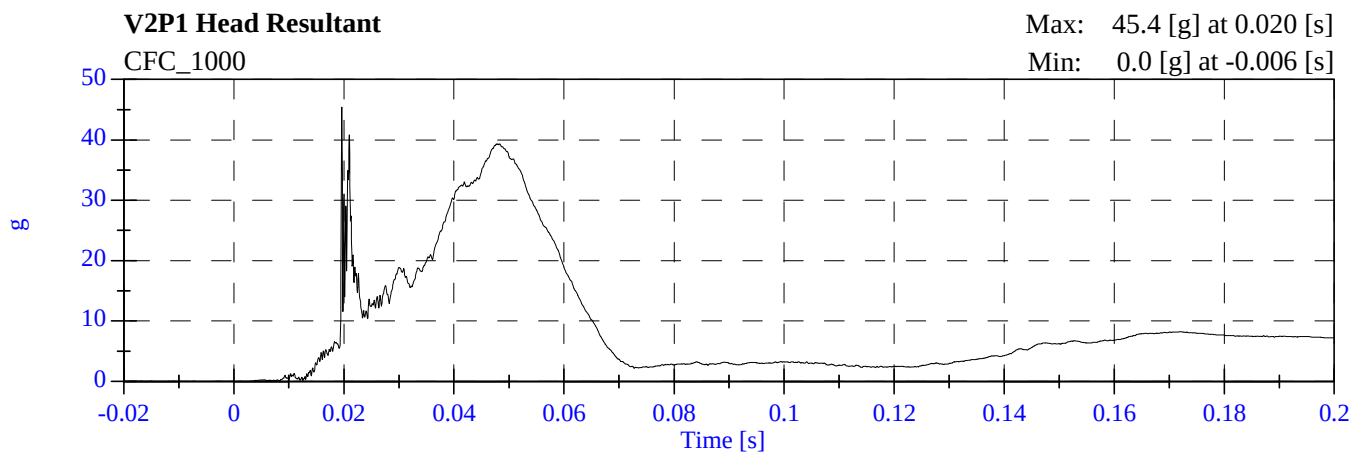
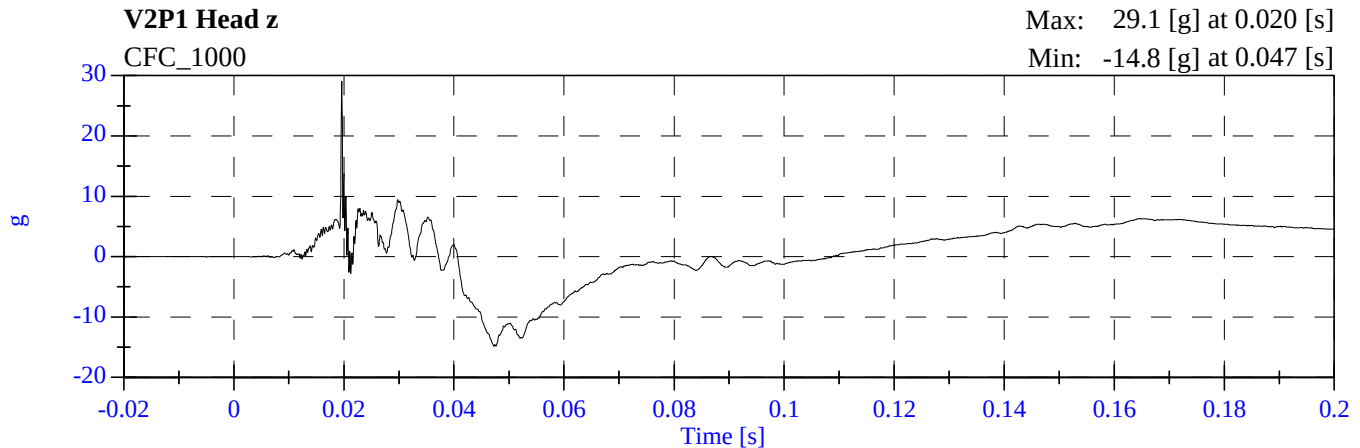
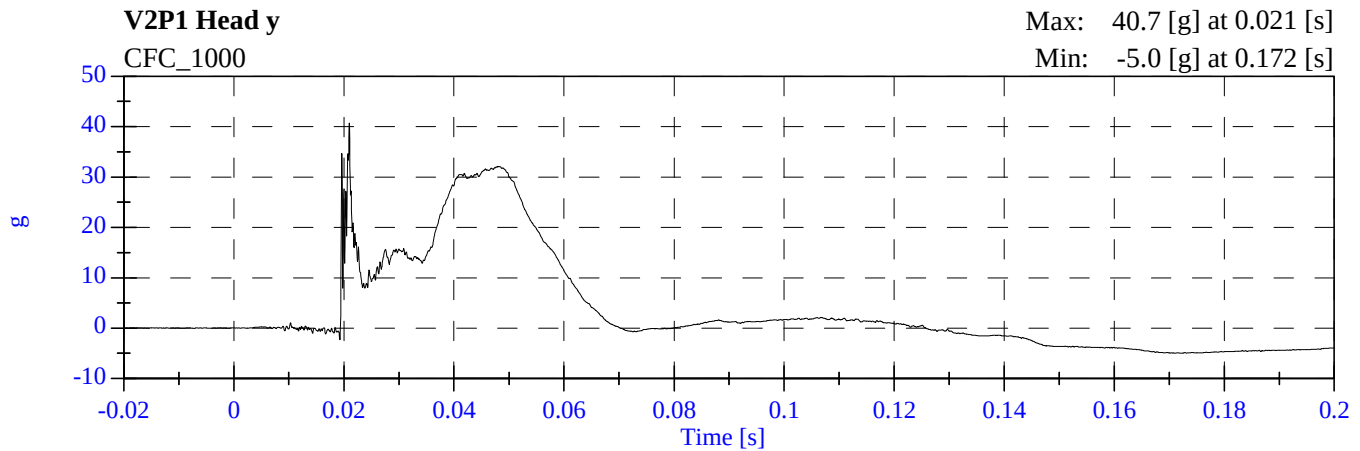
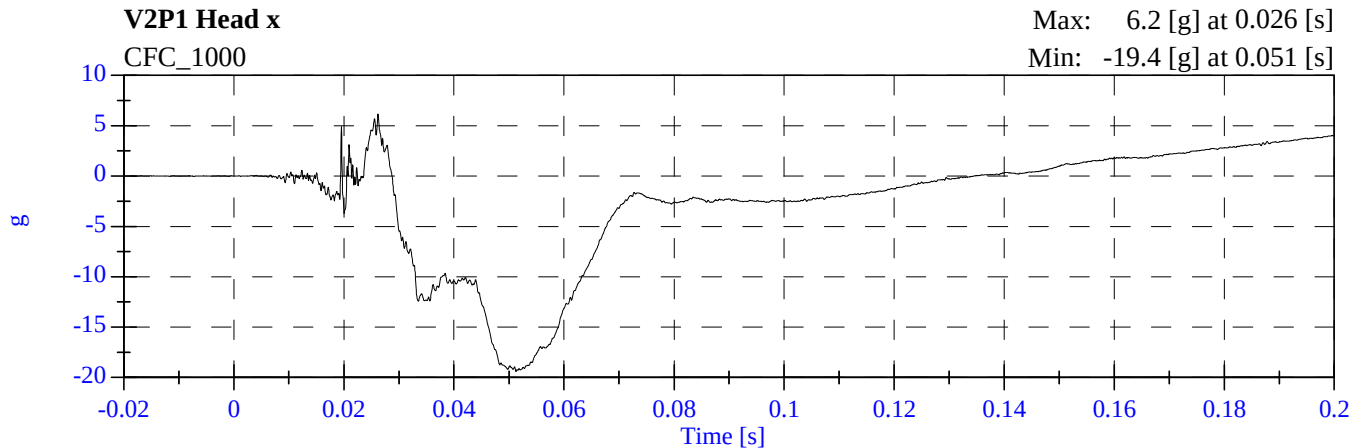
V2P1 Head Ax	V2A1 Right Front Sill Ax
V2P1 Head Ay	V2A1 Right Front Sill Ay
V2P1 Head Az	V2A1 Right Front Sill Az
V2P1 Upper Neck Fx	V2A2 Right Rear Sill Ax
V2P1 Upper Neck Fy	V2A2 Right Rear Sill Ay
V2P1 Upper Neck Fz	V2A2 Right Rear Sill Az
V2P1 Upper Neck Mx	V2A3 Rear Floorpan Ax
V2P1 Upper Neck My	V2A3 Rear Floorpan Ay
V2P1 Upper Neck Mz	V2A3 Rear Floorplan Az
V2P1 Upper Rib Ay	V2A4 Left Rear Sill Ay
V2P1 Upper Rib Redundant Ay	V2A5 Left Front Sill Ay
V2P1 Lower Rib Ay	V2A7 Right Rear Compartment Ay
V2P1 Lower Rib Redundant Ay	V2A12 Left Lower B Post Ay
V2P1 Lower Spine Ay	V2A13 Left Mid B Post Ay
V2P1 Lower Spine Redundant Ay	V2A14 Left Lower A Post Ay
V2P1 Pelvic Ay	V2A15 Left Mid A Post Ay
V2P1 Pelvic Redundant Ay	V2A16 Front Seat Track Ay
V2P4 Head Ax	V2A17 Rear Seat Track Ay
V2P4 Head Ay	V2A18 Target CG Ax
V2P4 Head Az	V2A18 Target CG Ay
V2P4 Upper Neck Fx	V2A18 Target CG Az
V2P4 Upper Neck Fy	V1 Moving Barrier CG Ax
V2P4 Upper Neck Fz	V1 Moving Barrier CG Ay
V2P4 Upper Neck Mx	V1 Moving Barrier CG Az
V2P4 Upper Neck My	V1 Moving Barrier Left Rail Ax
V2P4 Upper Neck Mz	V1 Moving Barrier Left Rail Ay
V2P4 Upper Rib Ay	
V2P4 Upper Rib Redundant Ay	
V2P4 Lower Rib Ay	
V2P4 Lower Rib Redundant Ay	
V2P4 Lower Spine Ay	
V2P4 Lower Spine Redundant Ay	
V2P4 Pelvic Ay	
V2P4 Pelvic Redundant Ay	

TEST NOTES

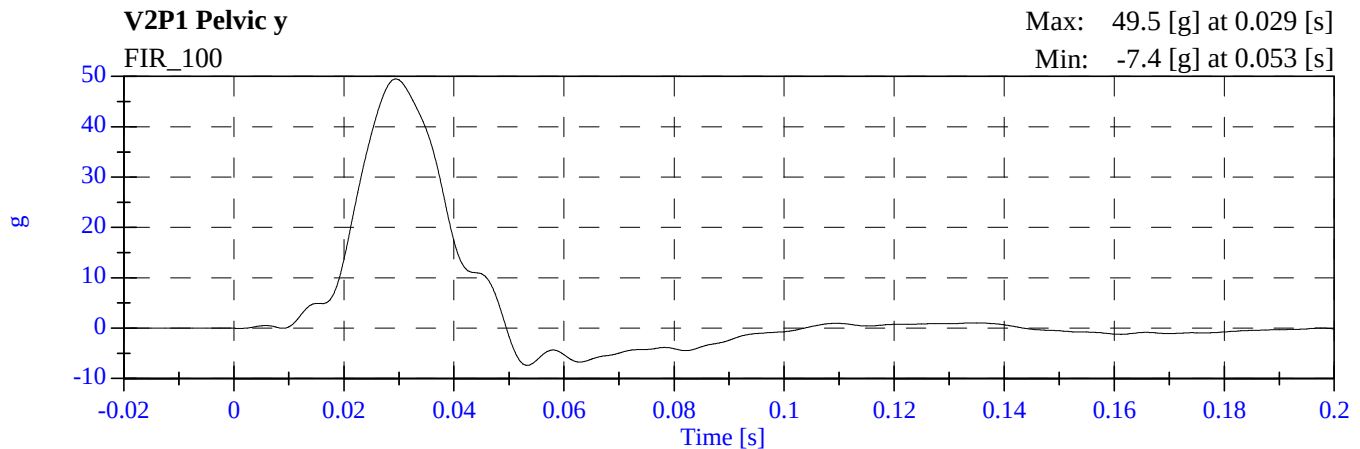
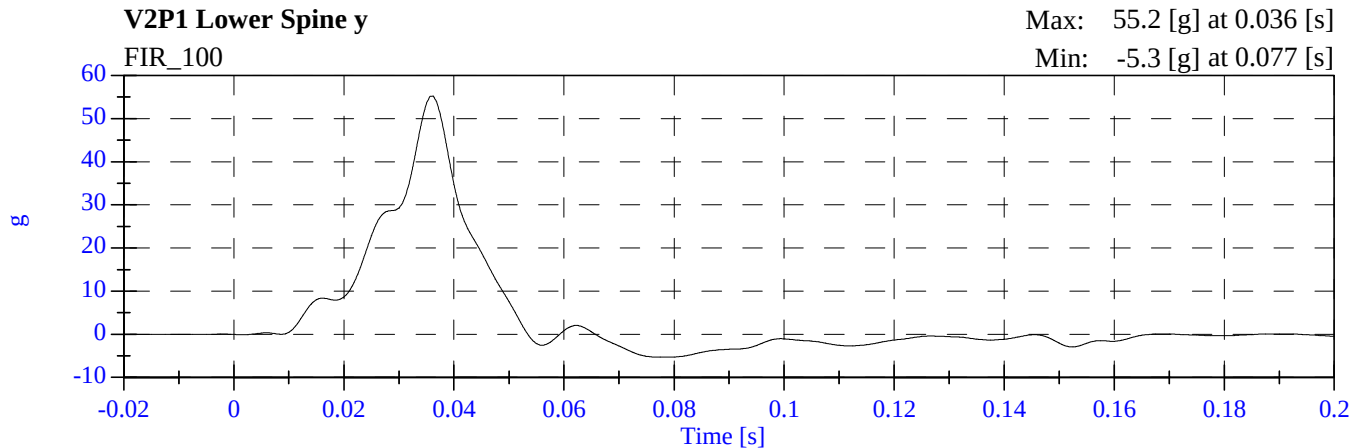
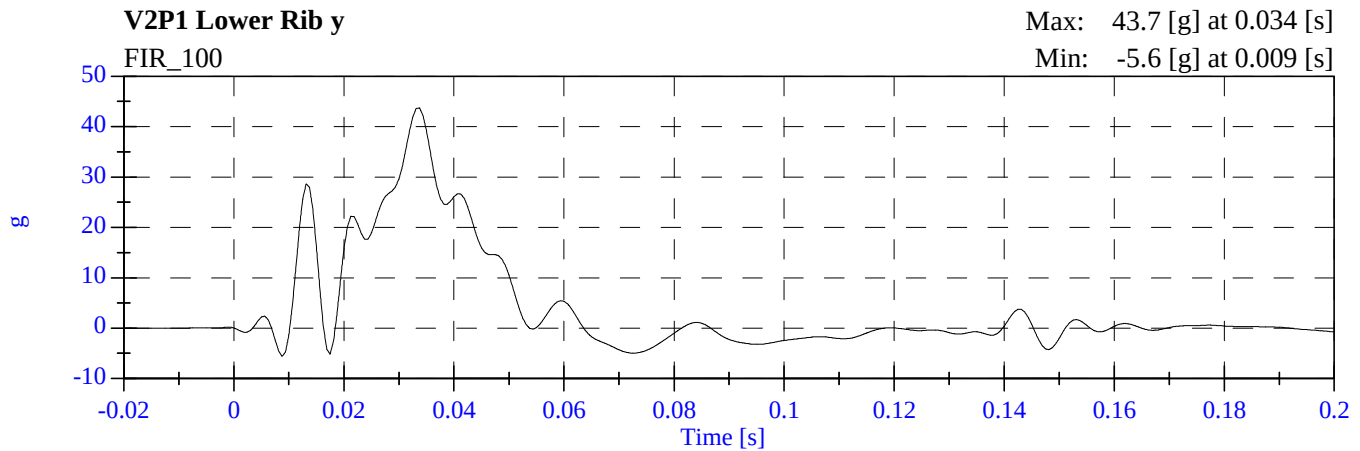
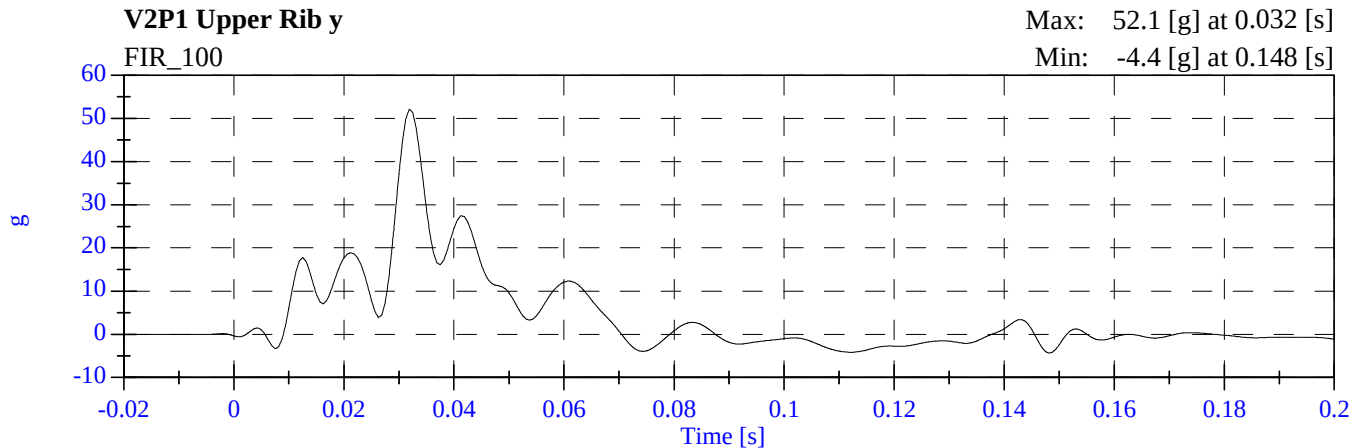
The following channel anomalies occurred:

V2P4 Upper Neck Fz	Data Spike at 148 ms
V2P4 Upper Neck Mx	Data Spike at 148 ms
V2P4 Upper Neck My	Data Spike at 148 ms
V2P4 Upper Neck Mz	Data Spike at 148 ms
V2P4 Pelvic Ry	Data Spikes Present
V2 A3 Rear Floorpan Z	Questionable after 72 ms

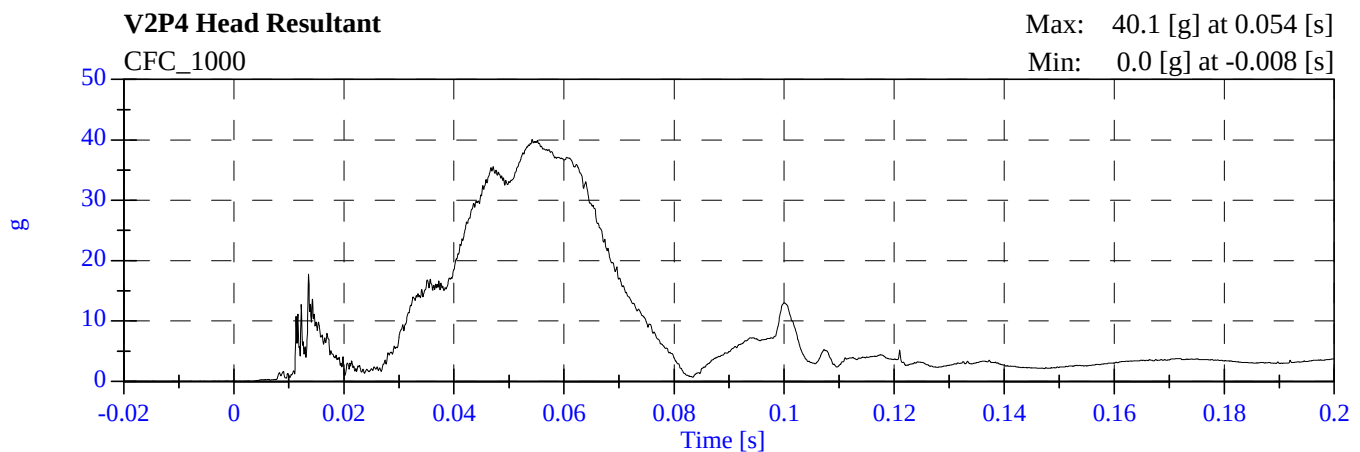
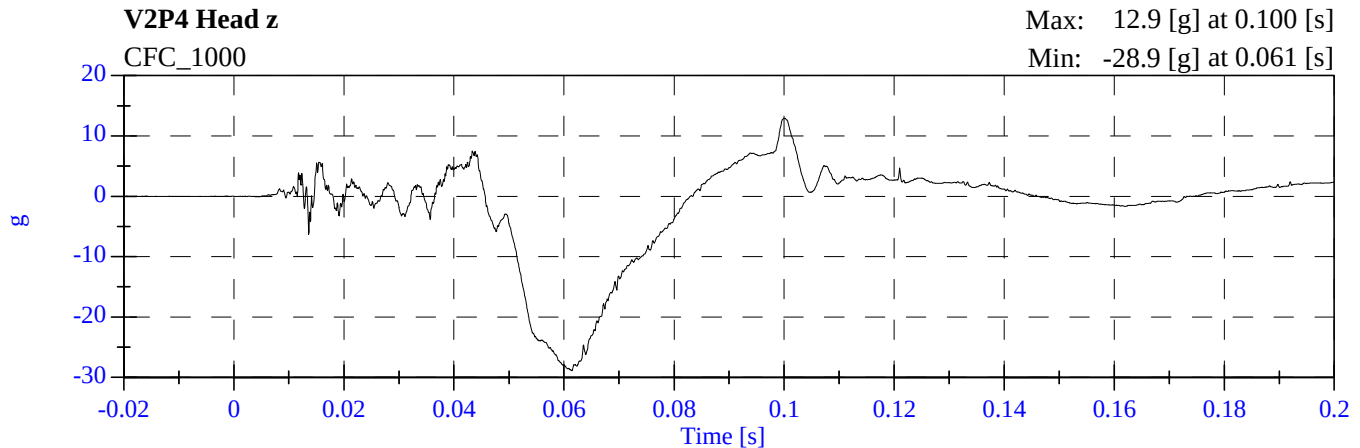
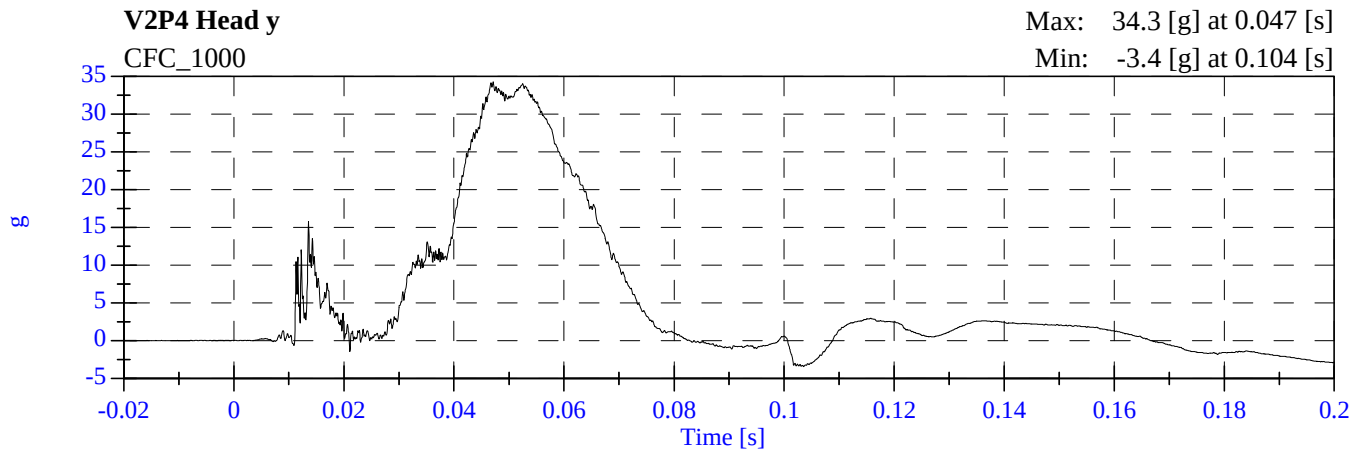
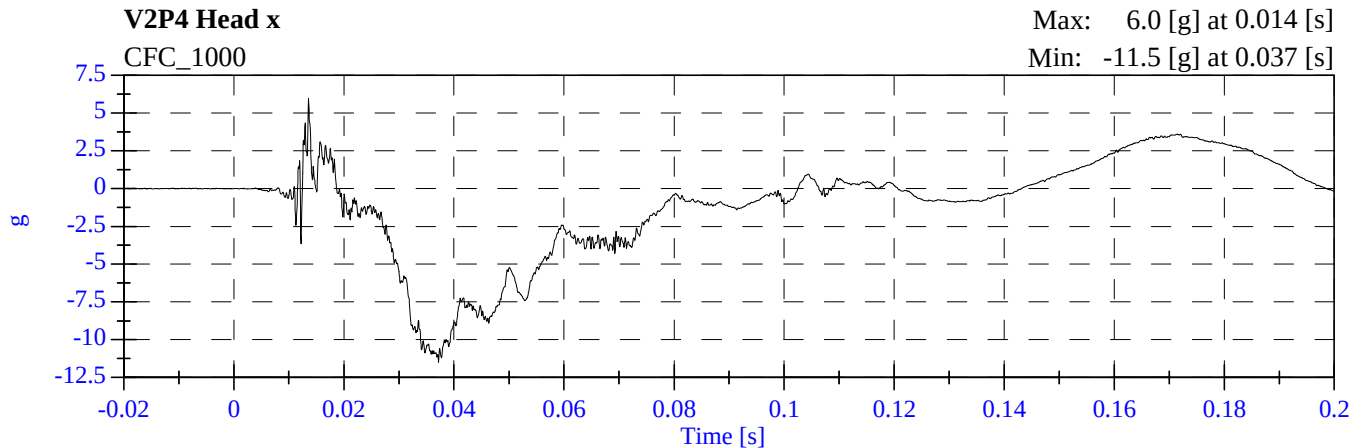
2008 SNCAP Test 13 2008 Chevrolet Malibu C80104 - January 10, 2008



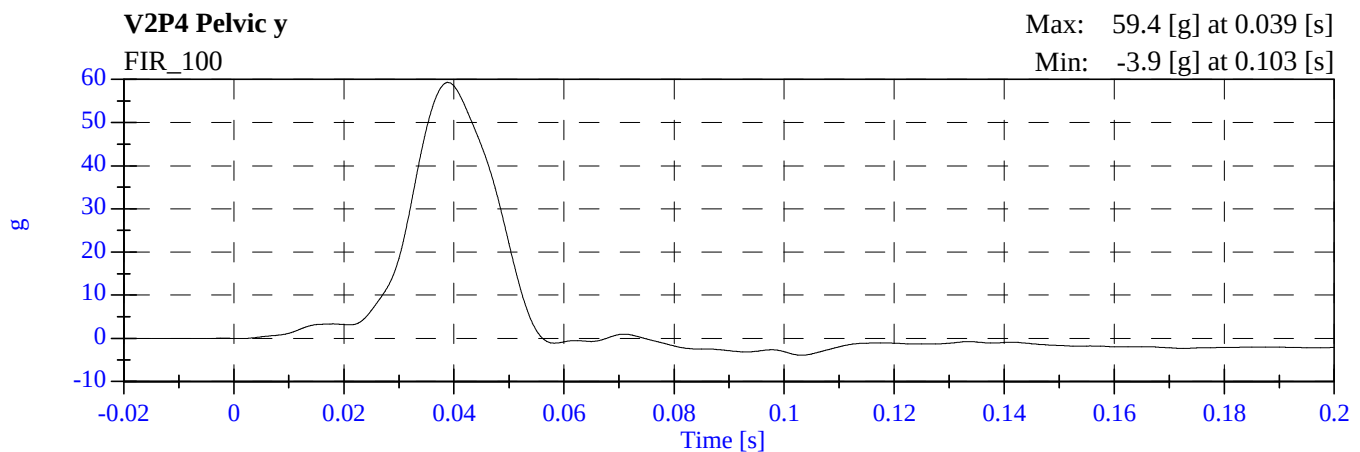
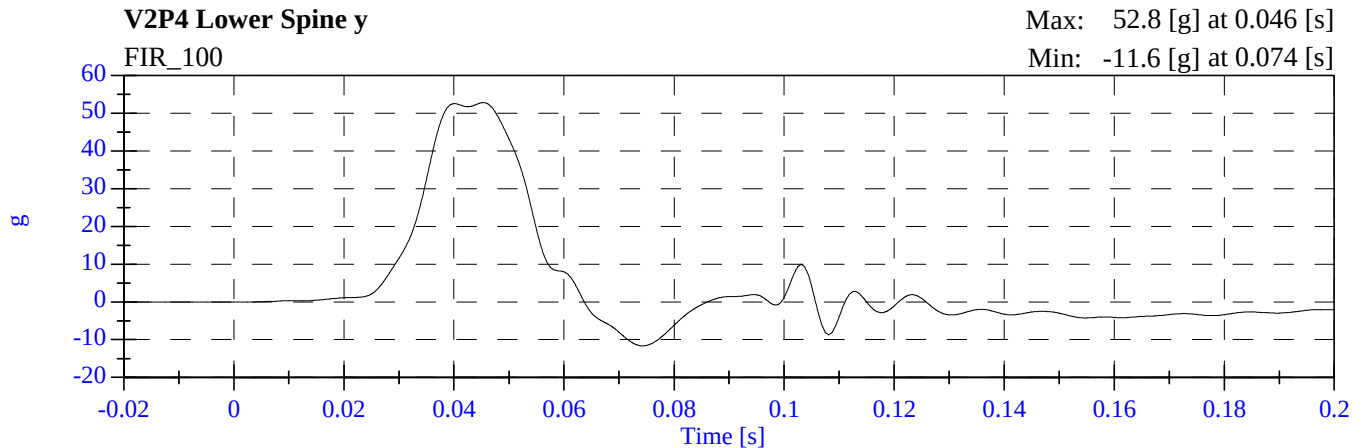
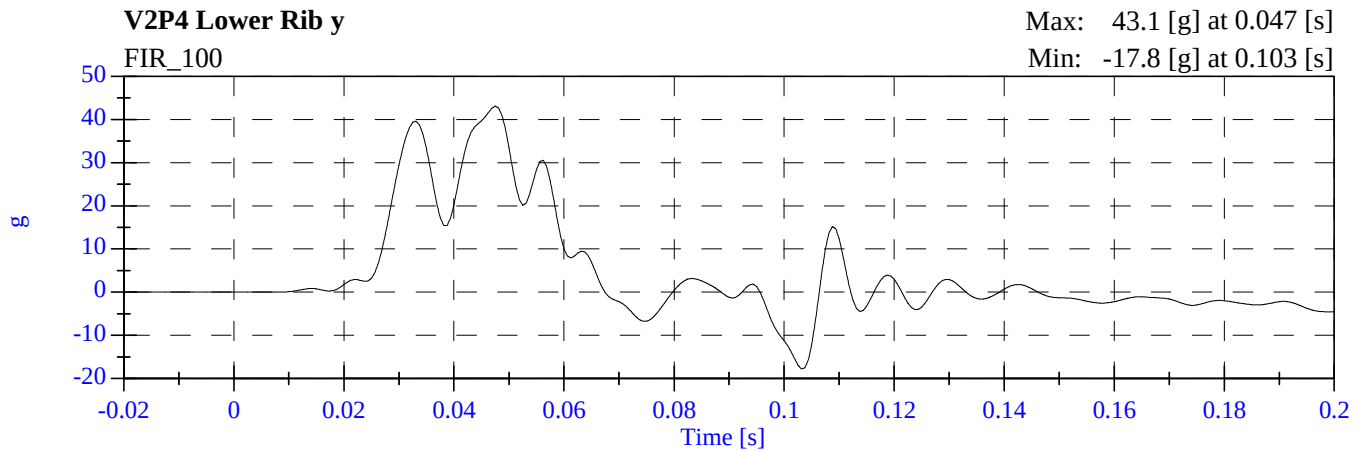
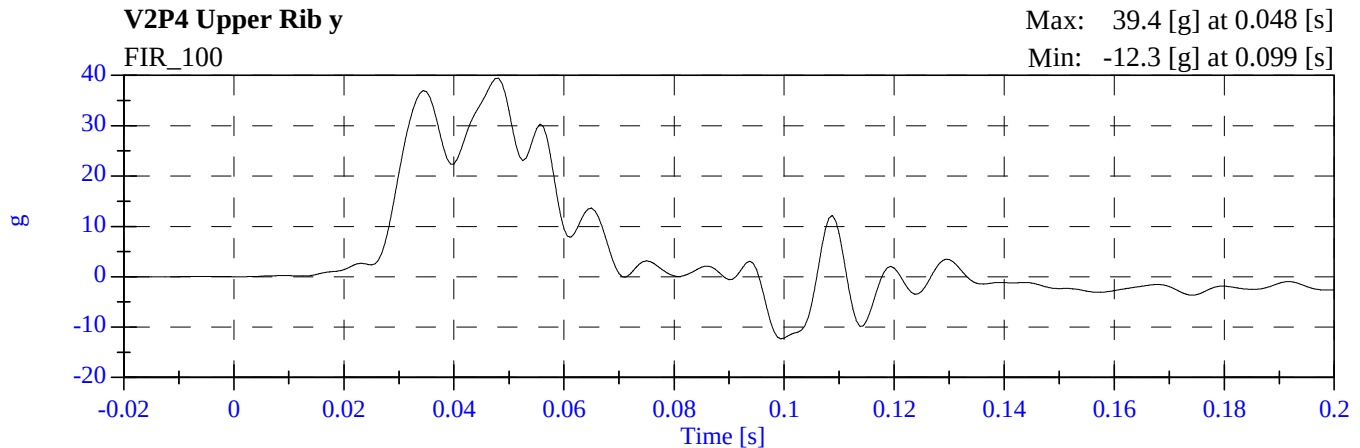
2008 SNCAP Test 13 2008 Chevrolet Malibu C80104 - January 10, 2008



2008 SNCAP Test 13 2008 Chevrolet Malibu C80104 - January 10, 2008



2008 SNCAP Test 13 2008 Chevrolet Malibu C80104 - January 10, 2008



APPENDIX C

DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SUMMARY
SID H3 PRE & POST TEST CALIBRATION

CONFIGURED FOR LEFT SIDE IMPACT

Date: November 16, 2007; January 14, 2008 Sequential Test Number: 4,3; 5,4
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	SID H3 NO.: 269		SID H3 NO.: 270	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	899	899	899	902
RH- Rib Height (mm)	501 - 521	508	505	505	503
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	234	234	234	234
KV- Knee Pivot from Back Line (mm)	511 - 526	518	516	518	513
SW- Knee Pivot to Floor (mm)	490 - 505	493	495	493	495
HW- Hip Width (mm)	356 - 391	386	381	386	384
THORAX IMPACTS					
TEMPERATURE (• C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	35.00	26.00	35.00	26.00
PROBE SPEED (m/s)	4.27 - 4.33	4.27	4.28	4.27	4.28
UPPER RIB (g's)	37 - 46	42.66	40.65	40.85	40
LOWER RIB (g's)	37 - 46	41.97	37.58	38.5	42.06
LOWER SPINE (g's)	15 - 22	18.66	17.84	20.78	21.57
PELVIS IMPACT					
TEMPERATURE (• C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	35.00	26.00	35.00	26.00
PROBE SPEED (m/s)	4.27 - 4.33	4.27	4.27	4.27	4.28
PELVIS (g's)	40 - 60	53.27	48.69	48.53	50.92

REMARKS: None

CALIBRATION TEST RESULTS

PRE-TEST

SID H3 NO.: 269

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 4
Date: November 16, 2007 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
THORACIC SHOCK ABSORBER TEST	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 4
Date: November 16, 2007 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 – 909	899
RH- Rib Height (mm)	502 – 520	508
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 – 241	234
KH- Knee Pivot from Back Line (mm)	511 – 526	518
KV- Knee Pivot to Floor (mm)	490 – 505	493
HW- Hip Width (mm)	356 - 391	386

REMARKS: None

Shock Low (3.05 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

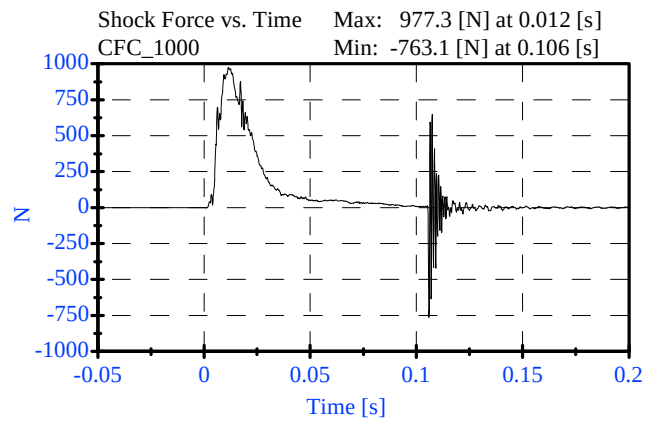
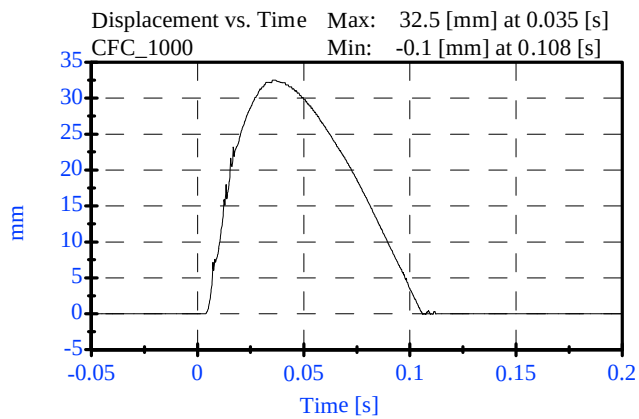
ATD Serial No: 269

Date: 07-19-07

Sequential Test Number: 1 File: 269-10 07-19-07

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	31.00 %	Passed
Displacement:	30.00-35.00 mm	32.51 mm	Passed
Maximum Force:	836.00-1125.00 N	977.33 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	269		
Damper Setting:	5		



Shock Med (4.27 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

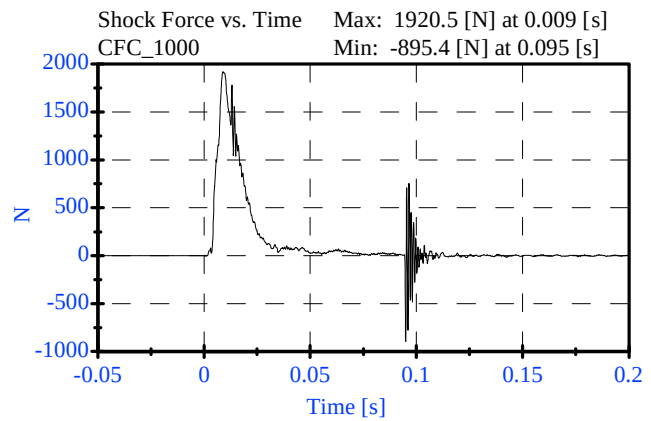
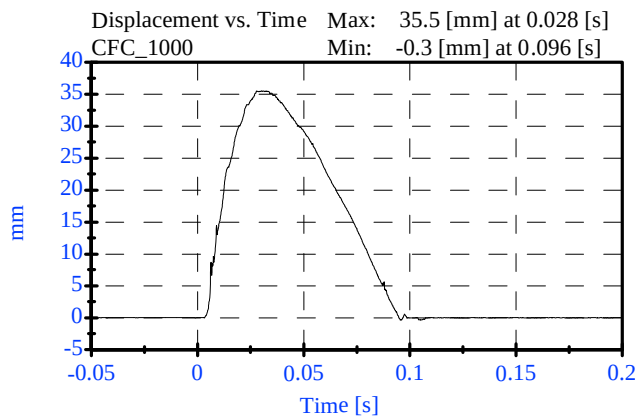
ATD Serial No: 269

Date: 07-19-07

Sequential Test Number: 1 File: 269-14 07-19-07

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	31.00 %	Passed
Displacement:	32.00-37.00 mm	35.46 mm	Passed
Maximum Force:	1730.00-2099.00 N	1920.51 N	Passed
Impact Test Velocity:	4.27 m/s		
Damper Identification:	269		
Damper Setting:	5		



Shock High (6.10 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

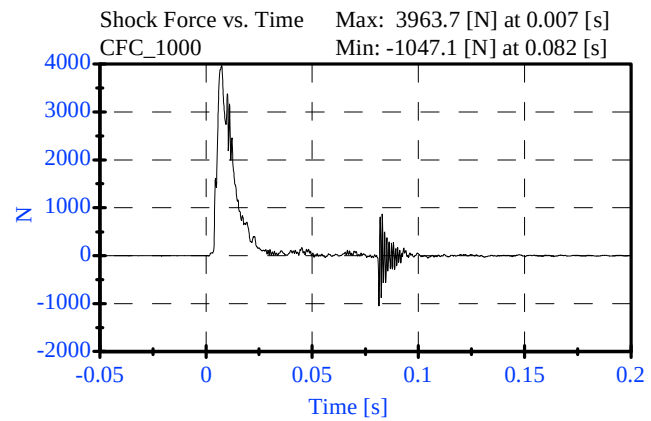
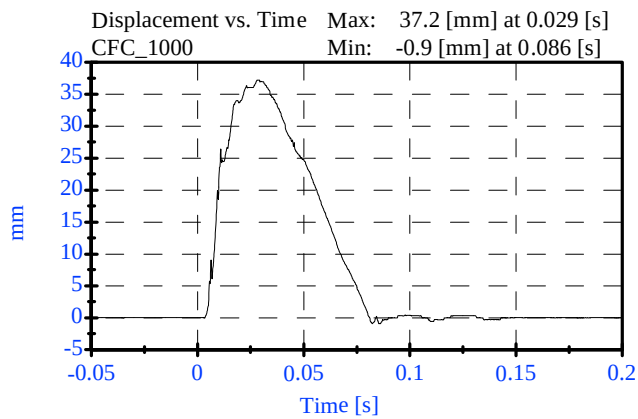
ATD Serial No: 269

Date: 07-19-07

Sequential Test Number: 1 File: 269-20 07-19-07

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	31.00 %	Passed
Displacement:	33.00-40.00 mm	37.23 mm	Passed
Maximum Force:	3741.00-4448.00 N	3963.68 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	269		
Damper Setting:	5		



Thorax Impact **Pre-Test**

CONFIGURED FOR LEFT SIDE IMPACT

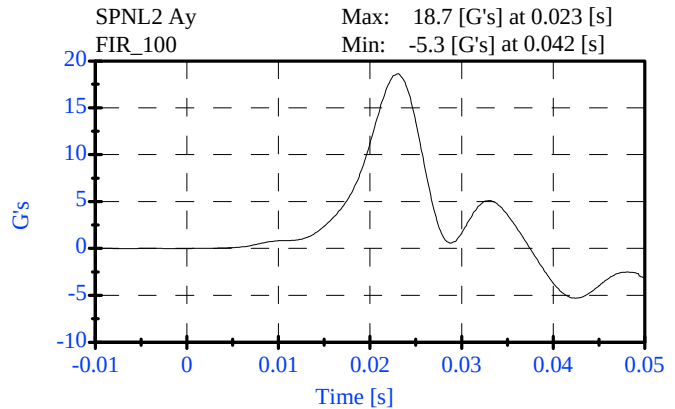
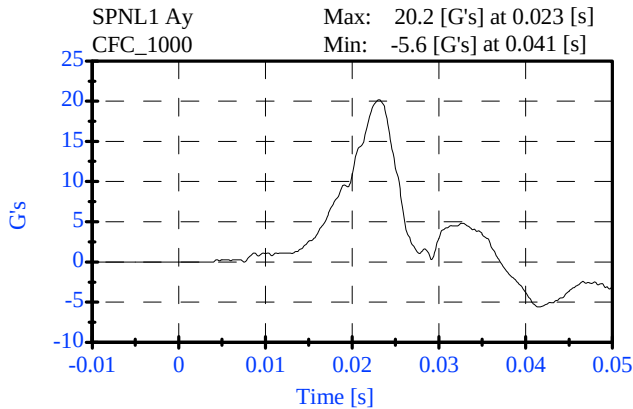
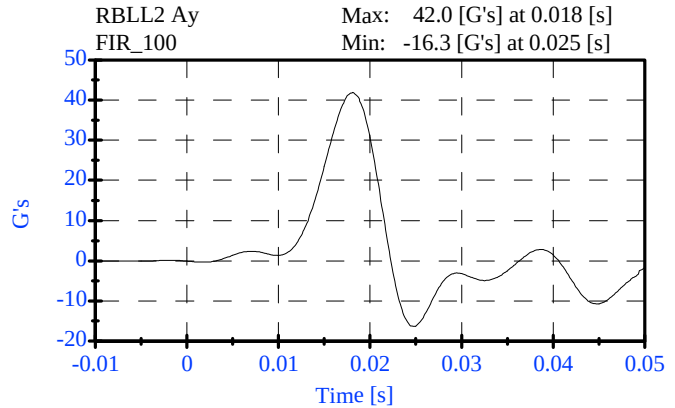
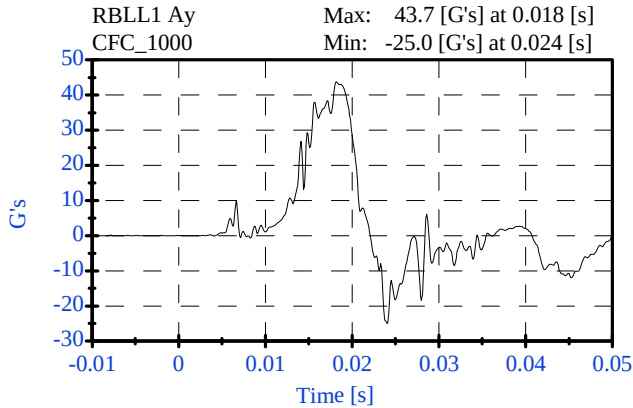
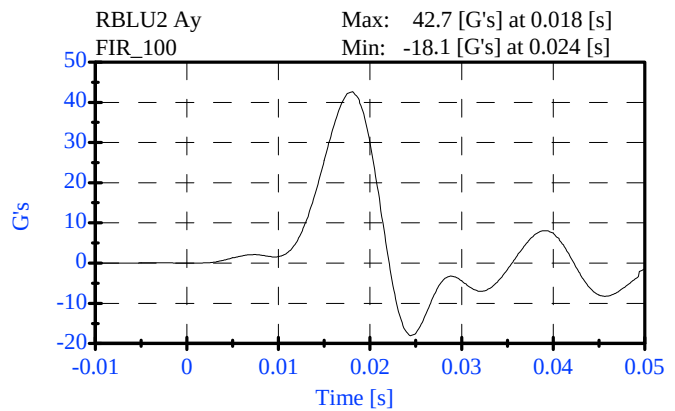
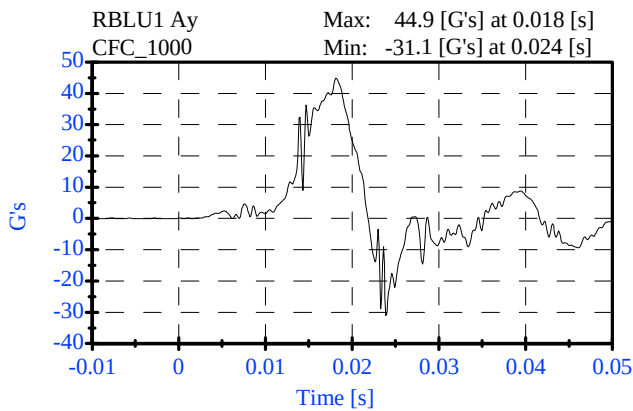
ATD Serial No: 269

Date: 11-12-07

Sequential Test Number: 1 File: 269T 11-12-07

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.27 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	42.66 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	41.97 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	18.66 G's	Passed



**Pelvic Impact
Pre-Test**

CONFIGURED FOR LEFT SIDE IMPACT

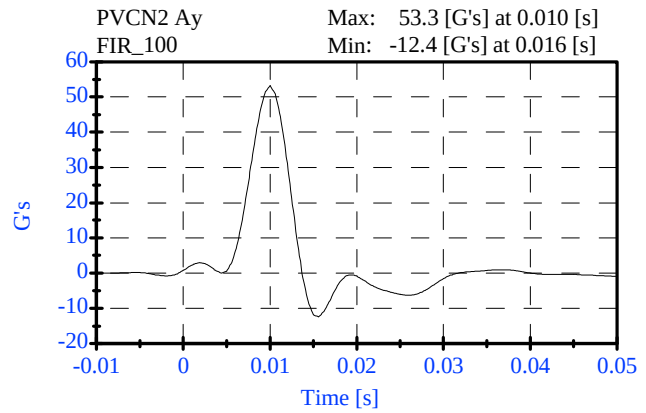
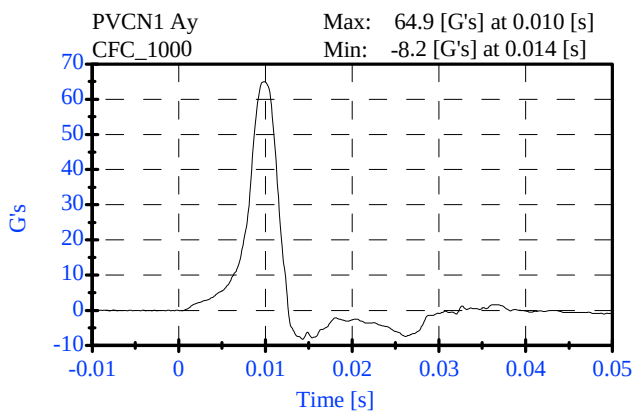
ATD Serial No: 269

Date: 11-12-07

Sequential Test Number: 1 File: 269P 11-12-07

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.27 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	53.27 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.4 ms	Passed



Head Drop Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

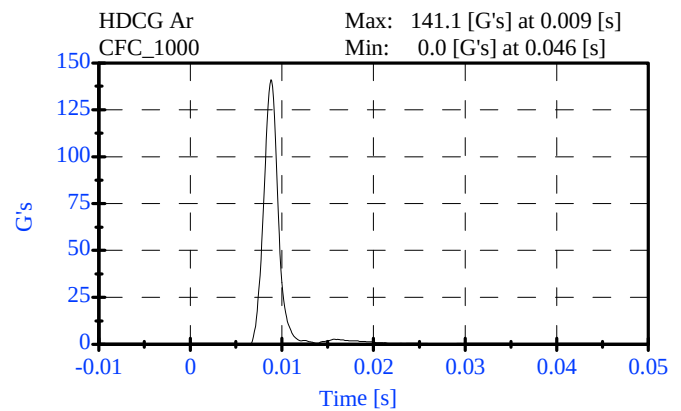
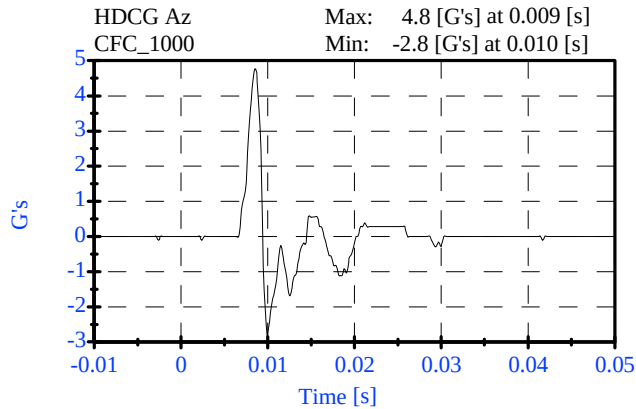
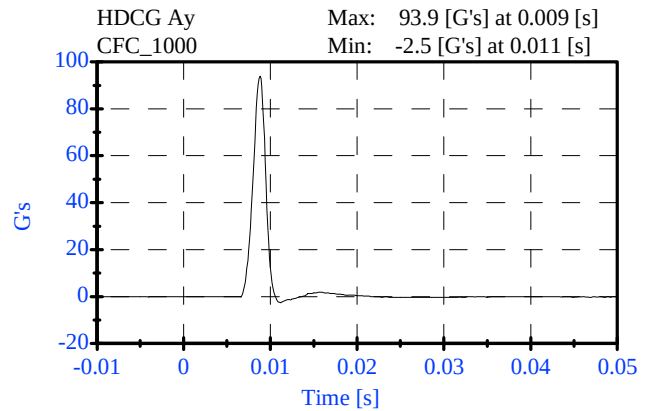
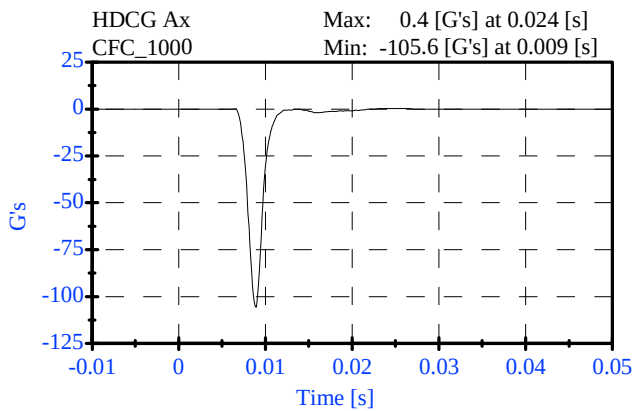
ATD Serial No: 269

Date: 11-08-07

Sequential Test Number: 1 File: 269hd2 11-08-07

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	141.08 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	0.38 Gs	Passed
Curve PerCent NonModal:	< 15%	1.95 %	Passed



Neck Test**Pre-Test****CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 269

Sequential Test Number: 1 File: 269N 11-09-07

Date: 11-09-07

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	7.00 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.11 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.44 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.42 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	6.96 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	69.98 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	60.00 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	87.52 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	56.40 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	9.30 ms	Passed

Neck Test Pre-Test CONFIGURED FOR LEFT SIDE IMPACT

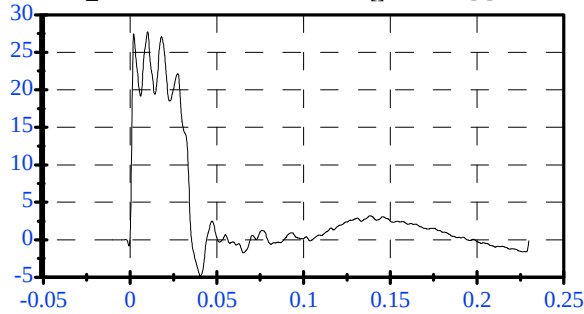
ATD Serial No: 269

Date: 11-09-07

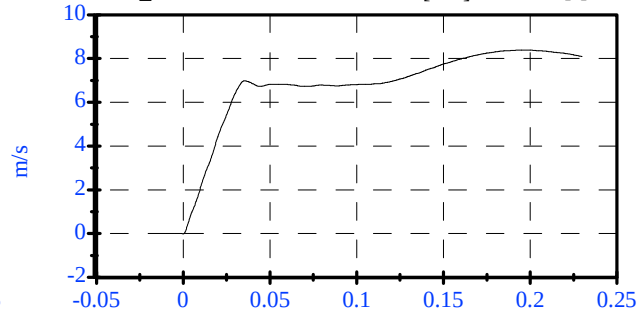
Sequential Test Number: 1 File: 269N 11-09-07

Laboratory Technician: B. Swiecicki

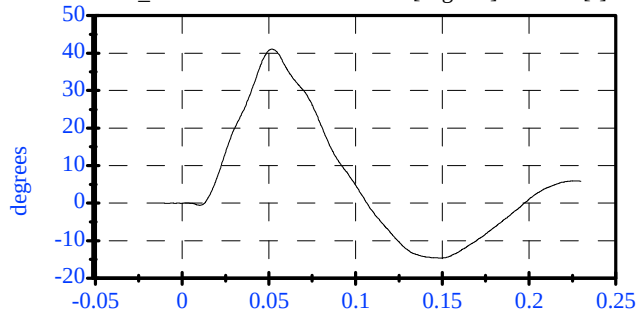
Pend Ax
CFC_180
Max: 27.7 [] at 0.010 [s]
Min: -4.9 [] at 0.041 [s]



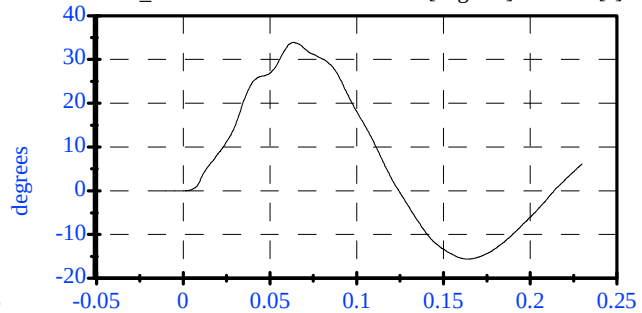
Pend Vx
CFC_180
Max: 8.4 [m/s] at 0.195 [s]
Min: -0.0 [m/s] at -0.000 [s]



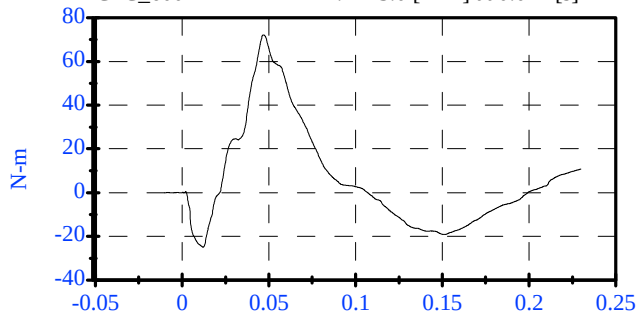
Head Rot
CFC_180
Max: 41.0 [degrees] at 0.052 [s]
Min: -14.6 [degrees] at 0.149 [s]



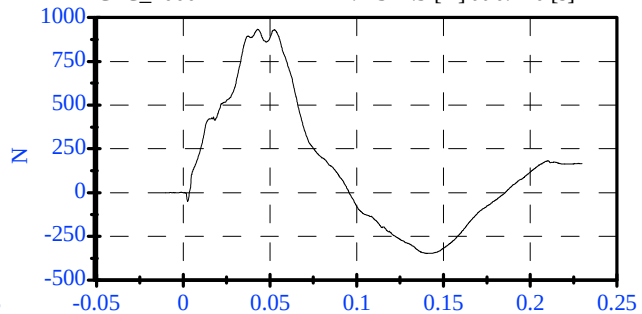
Arm Rot
CFC_180
Max: 33.9 [degrees] at 0.063 [s]
Min: -15.6 [degrees] at 0.164 [s]



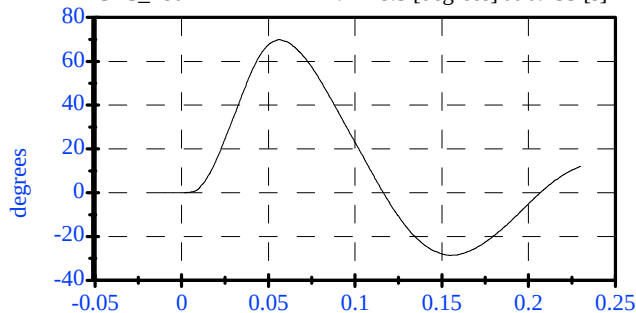
Neck Mx
CFC_600
Max: 72.1 [N-m] at 0.047 [s]
Min: -25.0 [N-m] at 0.012 [s]



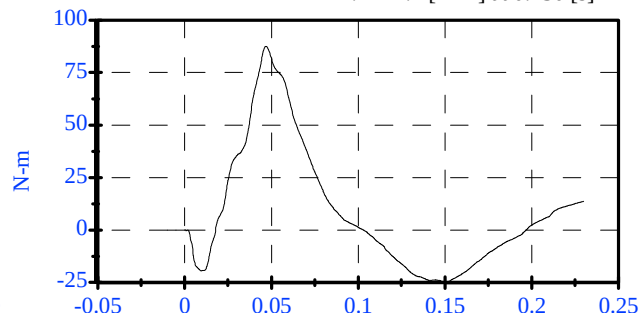
Neck Fy
CFC_1000
Max: 933.3 [N] at 0.043 [s]
Min: -347.9 [N] at 0.140 [s]



Tot Rot
CFC_180
Max: 70.0 [degrees] at 0.056 [s]
Min: -28.5 [degrees] at 0.155 [s]



MOCX
Max: 87.5 [N-m] at 0.047 [s]
Min: -24.7 [N-m] at 0.150 [s]



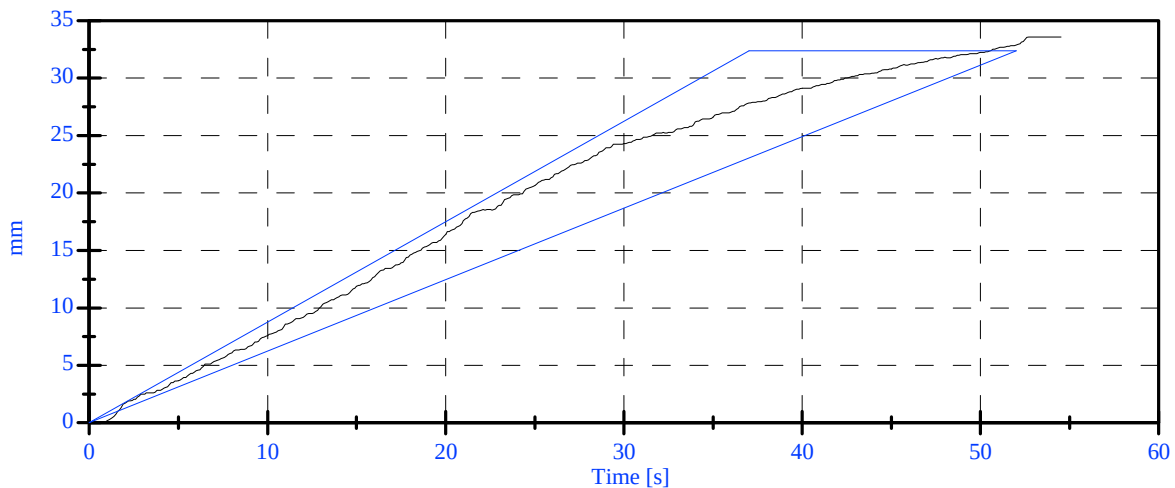
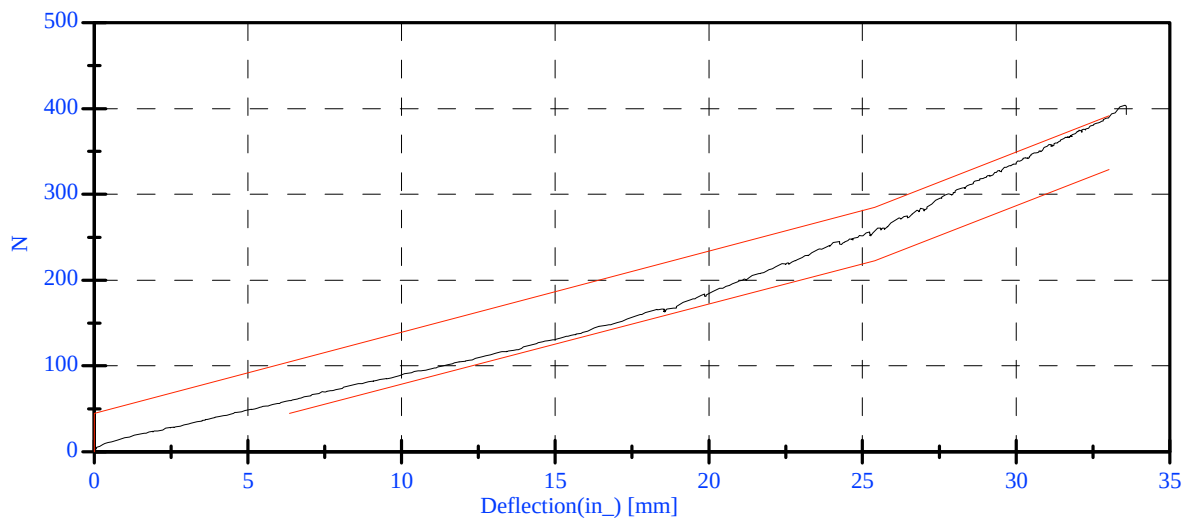
Abdomen Test
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 11-16-07

Sequential Test Number: 1 File: 269ab 11-16-07
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	112.90 N	Passed
Force at 19.05 mm :	162.98-220.99 N	167.63 N	Passed
Force at 25.40 mm :	221.97-280.02 N	254.99 N	Passed
Force at 33.02 mm :	324.99-391.00 N	389.11 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine Test **Pre-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269

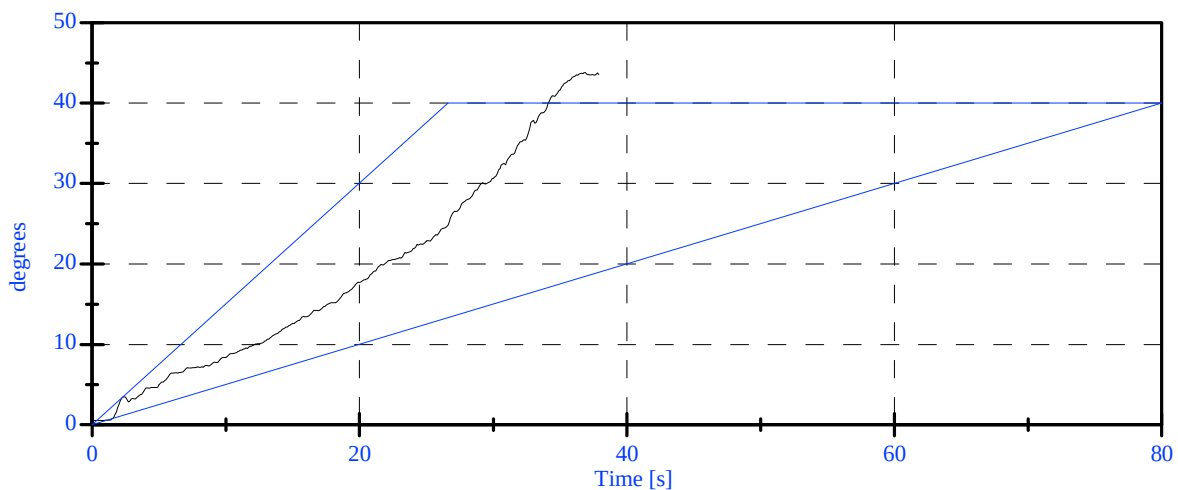
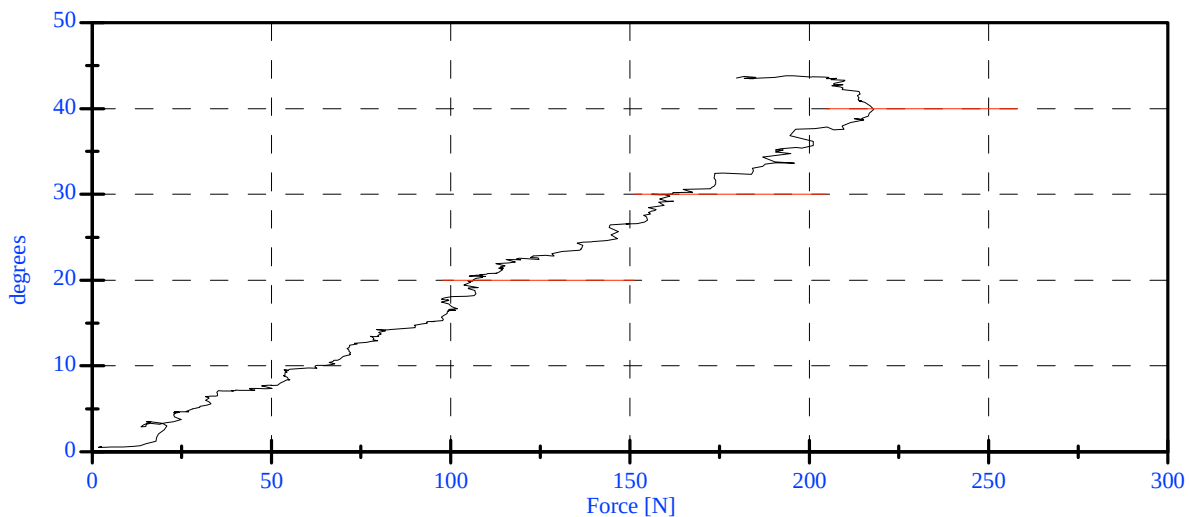
Date: 11-16-07

Sequential Test Number: 1 File: 269SP 11-16-07

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	2.61 N	Passed
Force at 20 Deg:	97.86-151.24 N	106.29 N	Passed
Force at 30 Deg	151.24-204.62 N	159.56 N	Passed
Force at 40 Deg	204.62-258.00 N	218.06 N	Passed
Return Angle	12 Deg Max	6.17 deg	Passed

LUMBAR SPINE FLEXION TEST



PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 4
 Date: November 16, 2007 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

CALIBRATION TEST RESULTS

PRE-TEST

SID H3 NO.: 270

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 3
Date: November 16, 2007 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
THORACIC SHOCK ABSORBER TEST	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 3
Date: November 16, 2007 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	899
RH- Rib Height (mm)	502 - 520	505
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	234
KH- Knee Pivot from Back Line (mm)	511 - 526	518
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	386

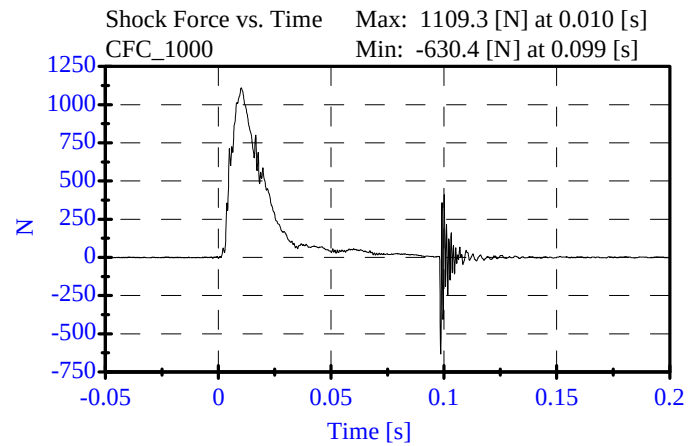
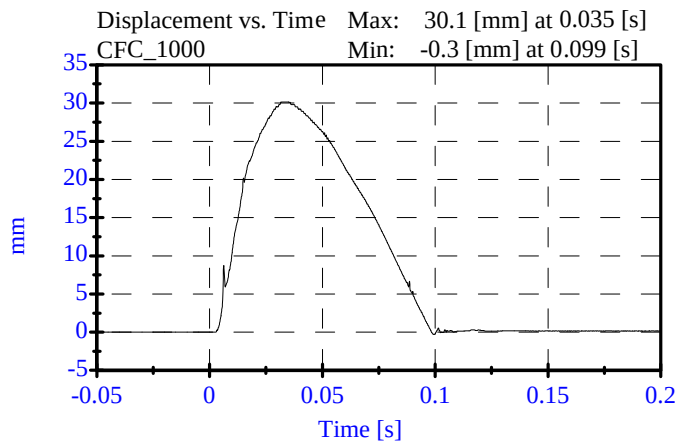
REMARKS: None

Shock Low (3.05 m/s)
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 07-18-07

Sequential Test Number: 1 File: 270-10 07-18-07
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	38.00 %	Passed
Displacement:	30.00-35.00 mm	30.14 mm	Passed
Maximum Force:	836.00-1125.00 N	1109.32 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	270		
Damper Setting:	5		

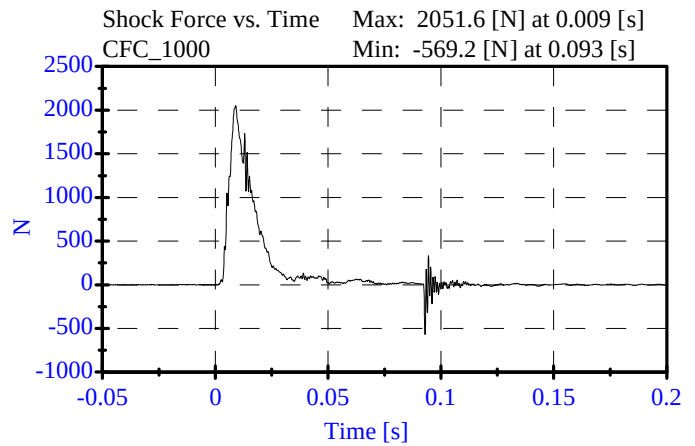
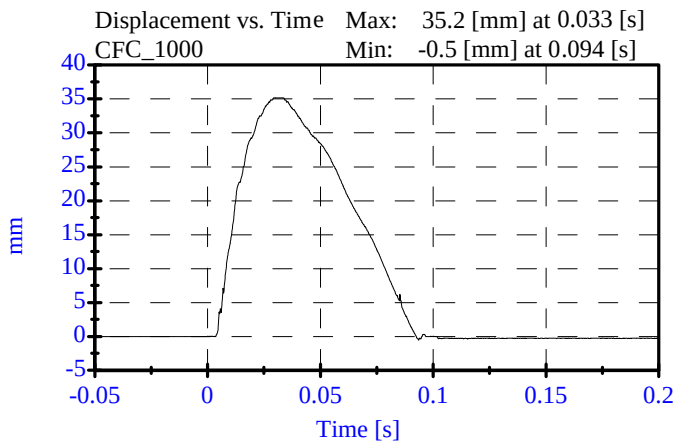


Shock Med (4.27 m/s)
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 07-18-07

Sequential Test Number: 1 File: 270-14a 07-18-07
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	38.00 %	Passed
Displacement:	32.00-37.00 mm	35.15 mm	Passed
Maximum Force:	1730.00-2099.00 N	2051.64 N	Passed
Impact Test Velocity:	4.27 m/s		
Damper Identification:	270		
Damper Setting:	5		

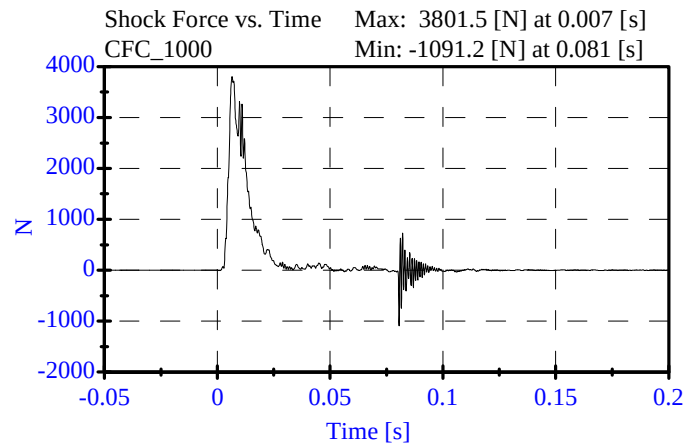
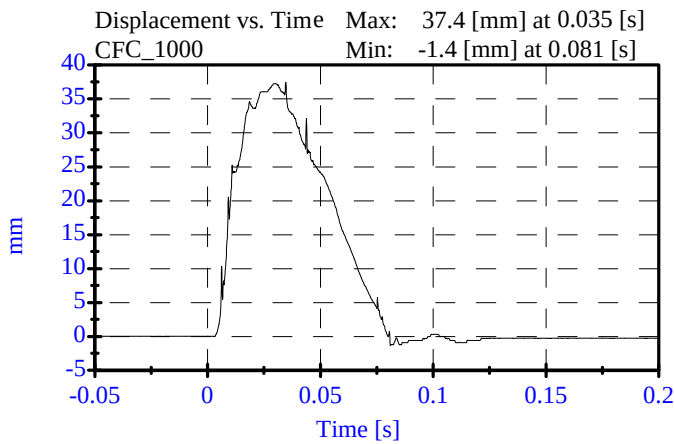


Shock High (6.10 m/s)
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 07-19-07

Sequential Test Number: 1 File: 270-20a 07-19-07
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	31.00 %	Passed
Displacement:	33.00-40.00 mm	37.41 mm	Passed
Maximum Force:	3741.00-4448.00 N	3801.46 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	270		
Damper Setting:	5		

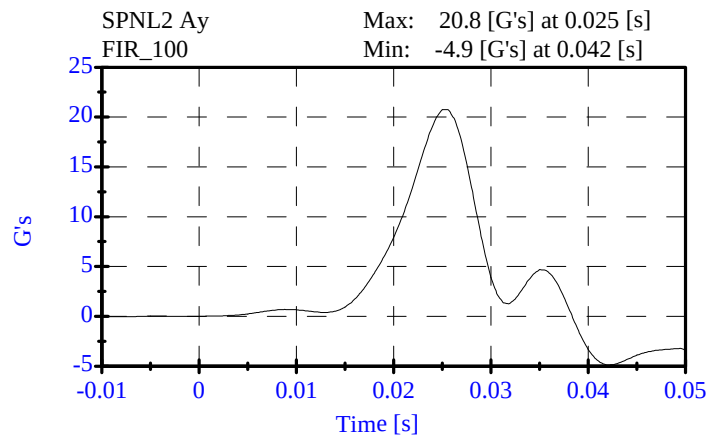
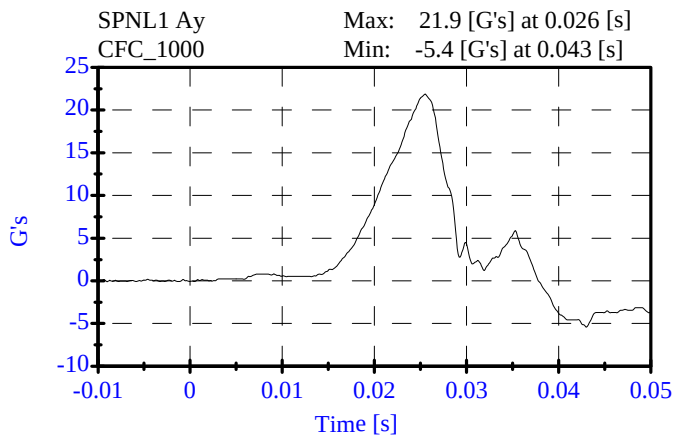
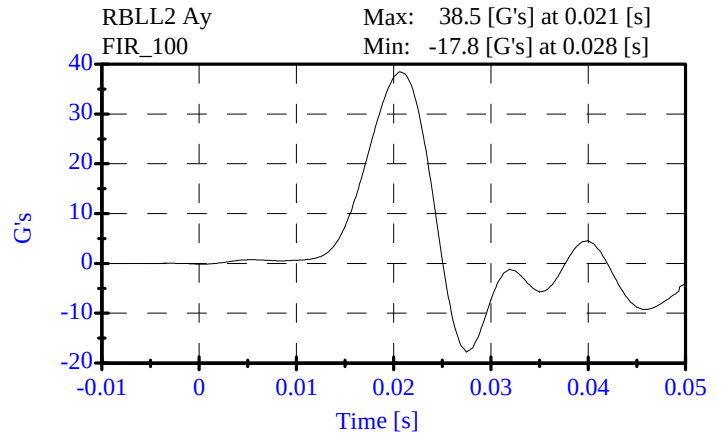
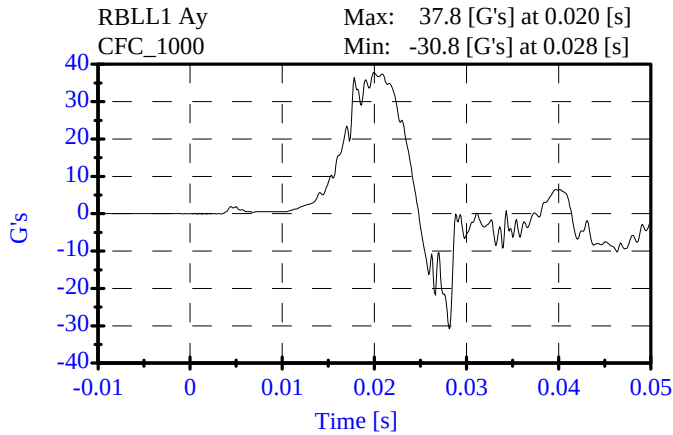
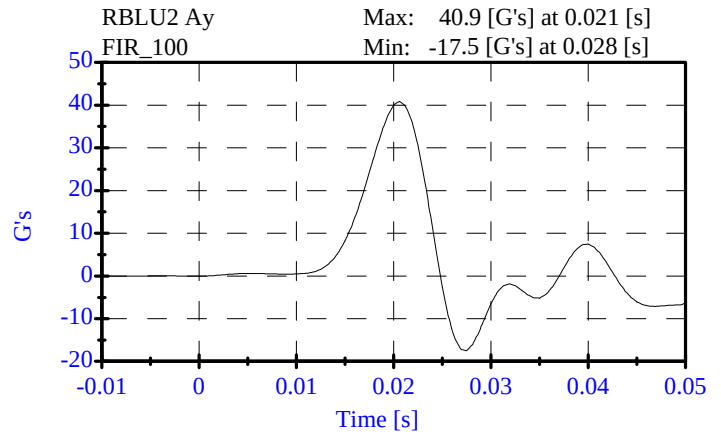
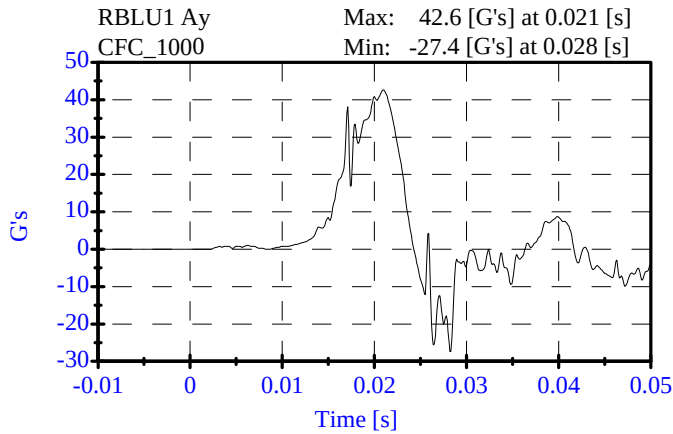


Thorax Impact
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 11-12-07

Sequential Test Number: 1 File: 270T 11-12-07
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.27 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	40.85 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	38.50 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	20.78 G's	Passed

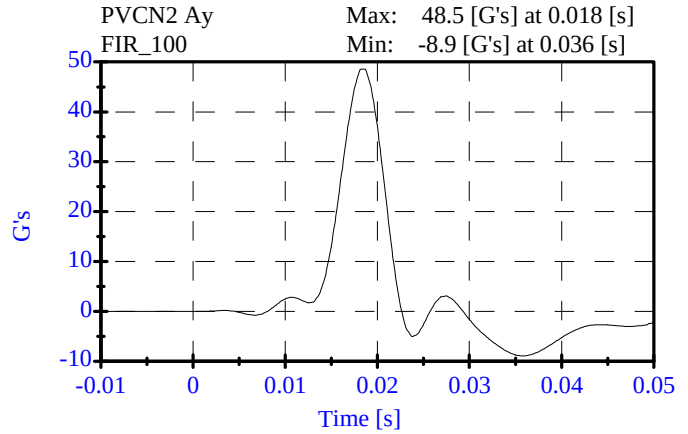
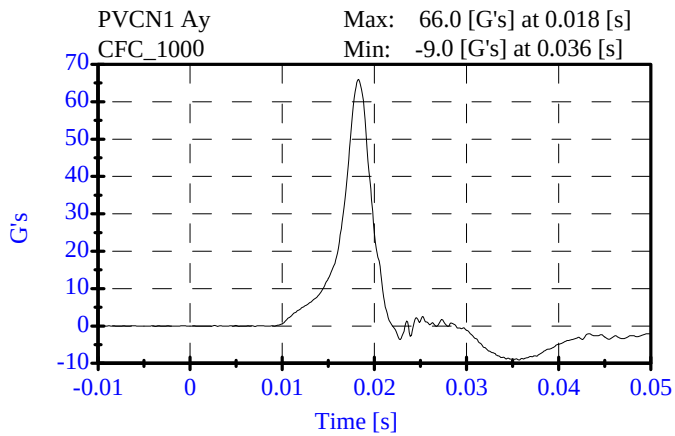


Pelvis Impact test
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 11-16-07

Sequential Test Number: 1 File: 270P 11-16-07
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.27 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	48.53 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.5 ms	Passed



head Drop

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

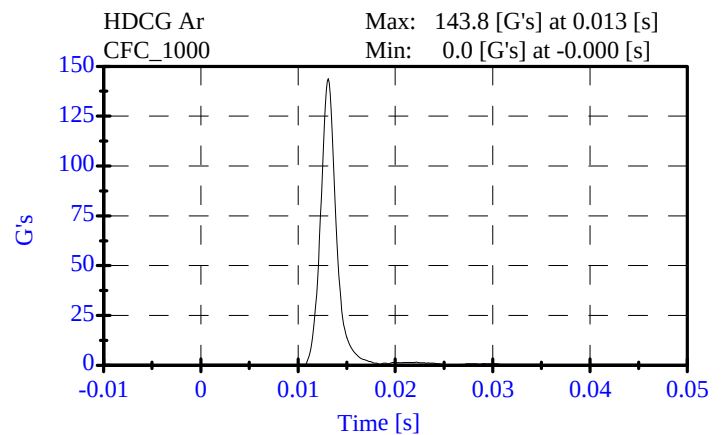
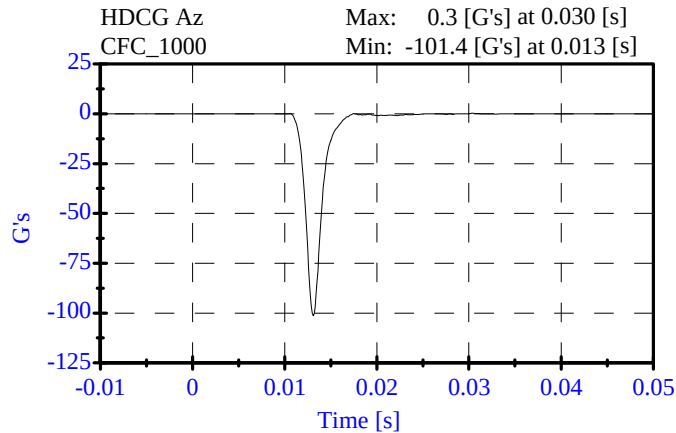
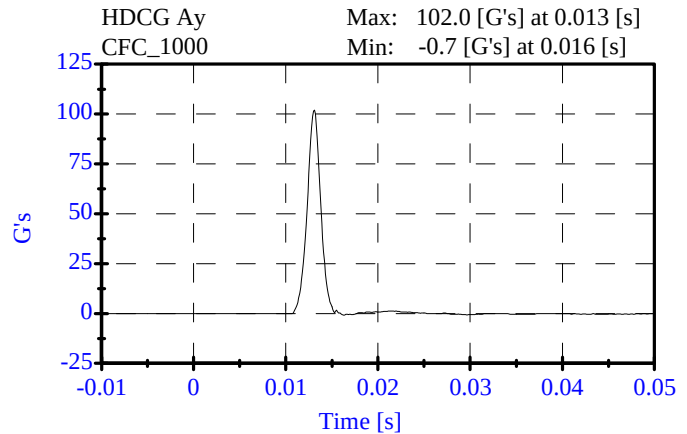
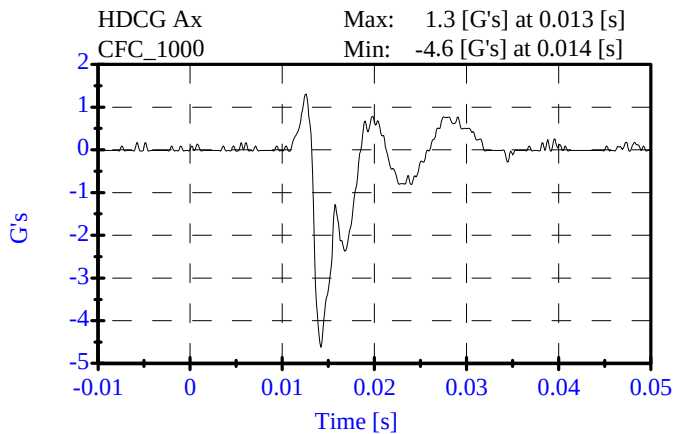
ATD Serial No: 270

Date: 11-8-07

Sequential Test Number: 1 File: 270HD1 11-08-07

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	35.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	143.83 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	1.30 Gs	Passed
Curve PerCent NonModal:	< 15%	1.07 %	Passed



Neck Test**Pre-Test****CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 270

Date: 11-09-07

Sequential Test Number: 1 File: 270N 11-09-07

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	7.00 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.01 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.23 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.26 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.15 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	67.92 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	59.60 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	87.83 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	53.20 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	8.10 ms	Passed

Neck Test
Pre-Test
CONFIGURED FOR LEFT SIDE IMPACT

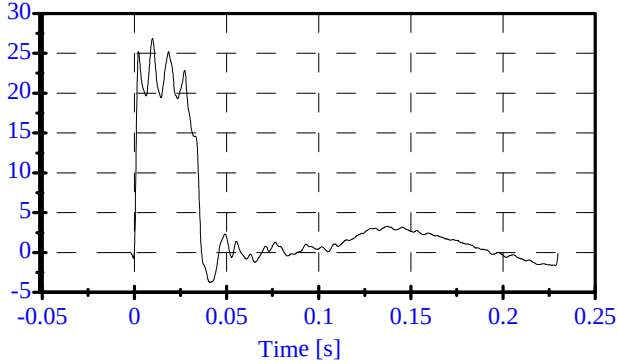
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Date: 11-09-07

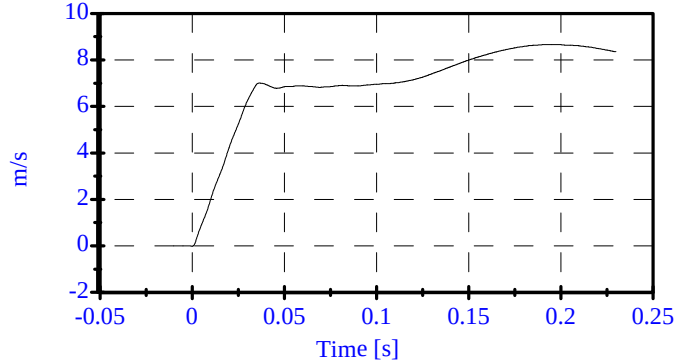
Sequential Test Number: 1 File: 270N 11-09-07

Laboratory Technician: B. Swiecicki

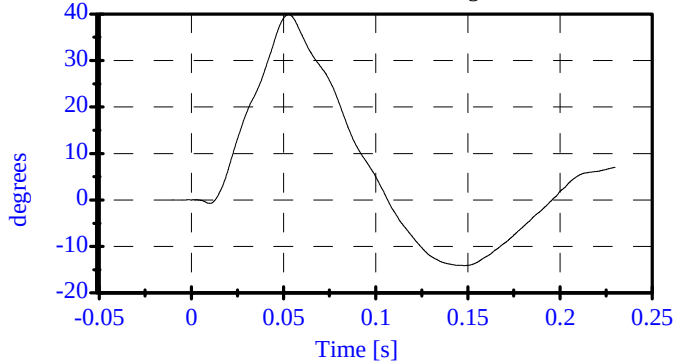
Pend Ax
CFC_180
Max: 26.9 [] at 0.010 [s]
Min: -3.7 [] at 0.041 [s]



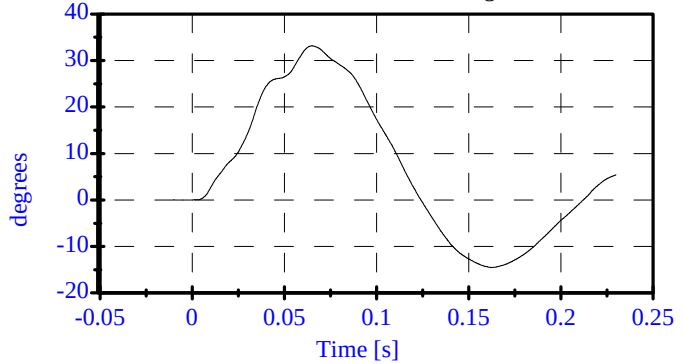
Pend Vx
CFC_180
Max: 8.7 [m/s] at 0.193 [s]
Min: -0.0 [m/s] at 0.000 [s]



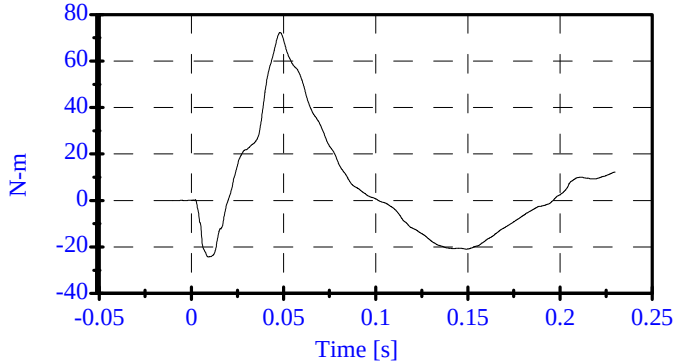
Head Rot
CFC_180
Max: 39.9 [degrees] at 0.053 [s]
Min: -14.1 [degrees] at 0.148 [s]



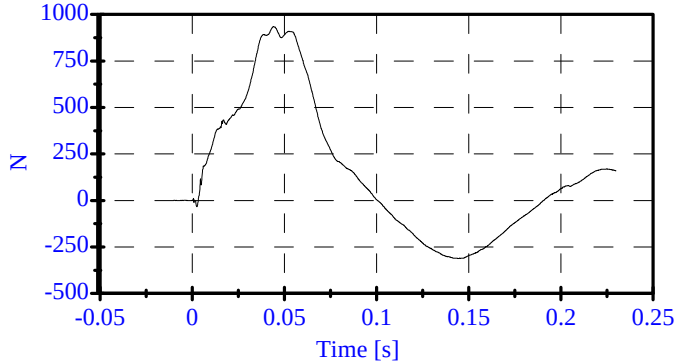
Arm Rot
CFC_180
Max: 33.2 [degrees] at 0.065 [s]
Min: -14.5 [degrees] at 0.162 [s]



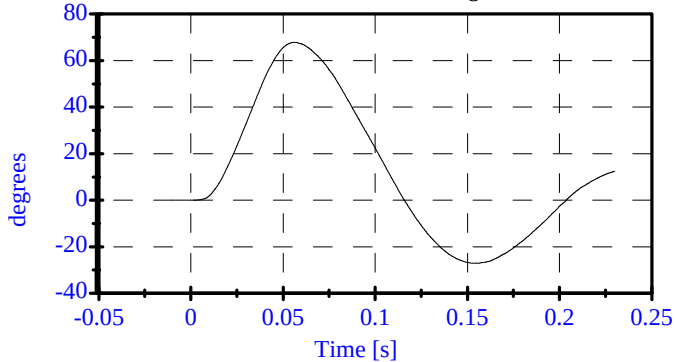
Neck Mx
CFC_600
Max: 72.3 [N-m] at 0.048 [s]
Min: -24.3 [N-m] at 0.009 [s]



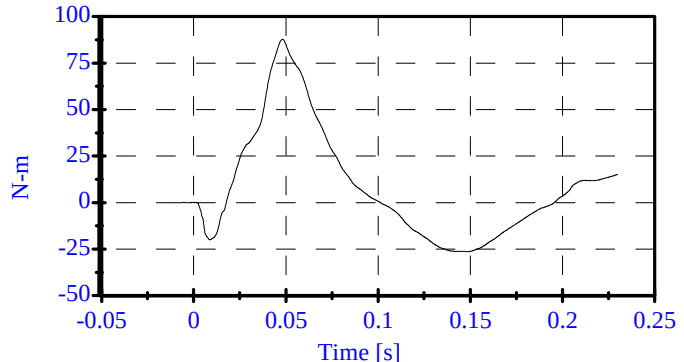
Neck Fy
CFC_1000
Max: 934.7 [N] at 0.044 [s]
Min: -312.5 [N] at 0.144 [s]



Tot Rot
CFC_180
Max: 67.9 [degrees] at 0.056 [s]
Min: -27.2 [degrees] at 0.154 [s]



MOCX
Max: 87.8 [N-m] at 0.048 [s]
Min: -26.3 [N-m] at 0.149 [s]



Abdomen Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270

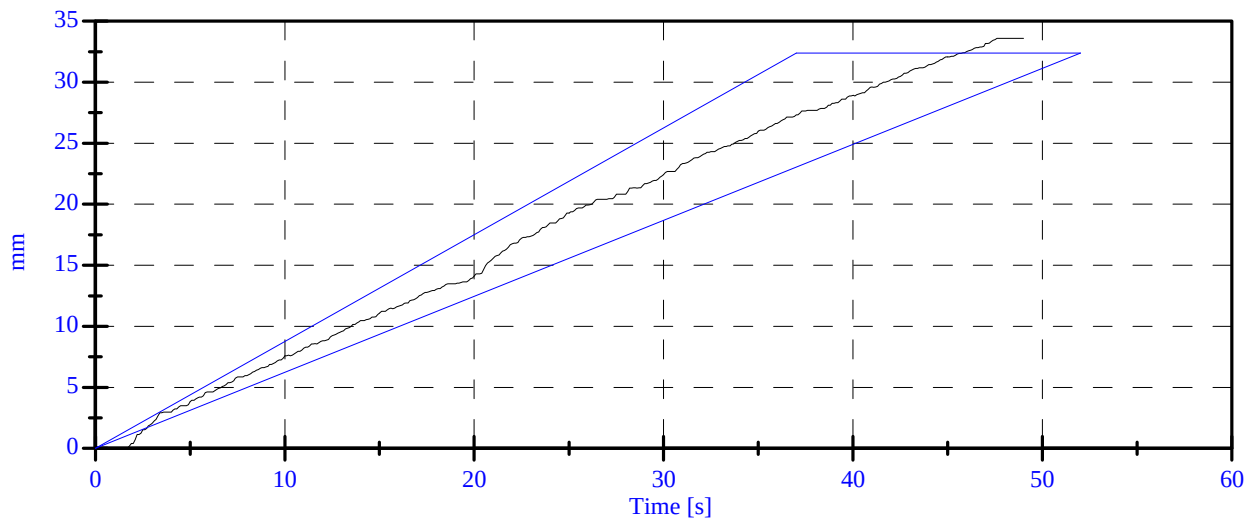
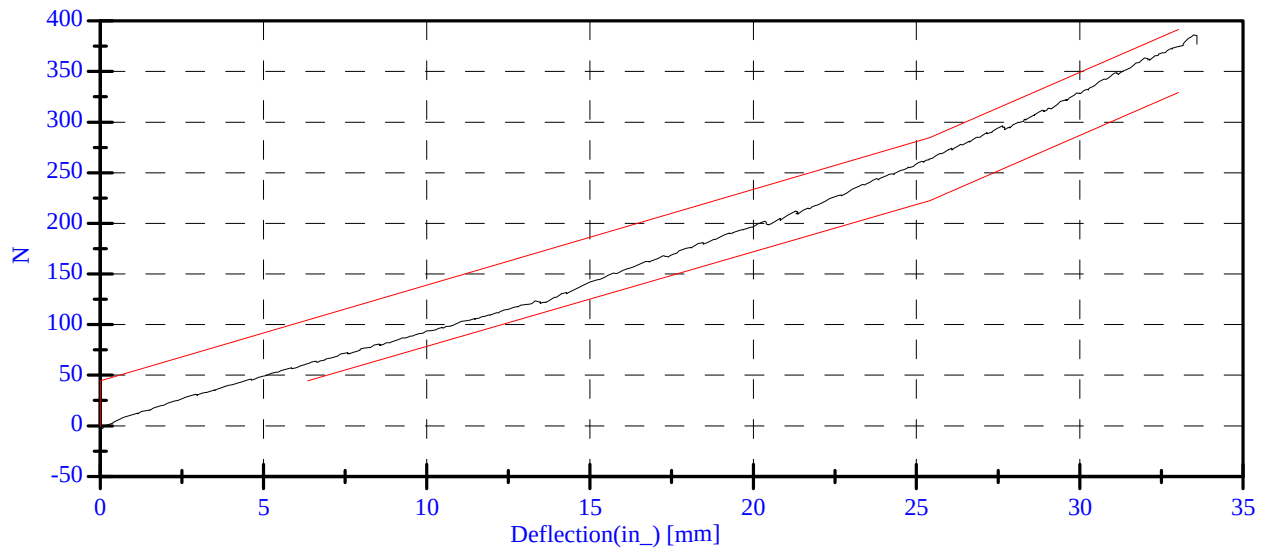
Date: 11-16-07

Sequential Test Number: 1 File: 270ab 11-16-07

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	119.42 N	Passed
Force at 19.05 mm :	162.98-220.99 N	188.66 N	Passed
Force at 25.40 mm :	221.97-280.02 N	262.96 N	Passed
Force at 33.02 mm :	324.99-391.00 N	373.88 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine Test

Pre-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270

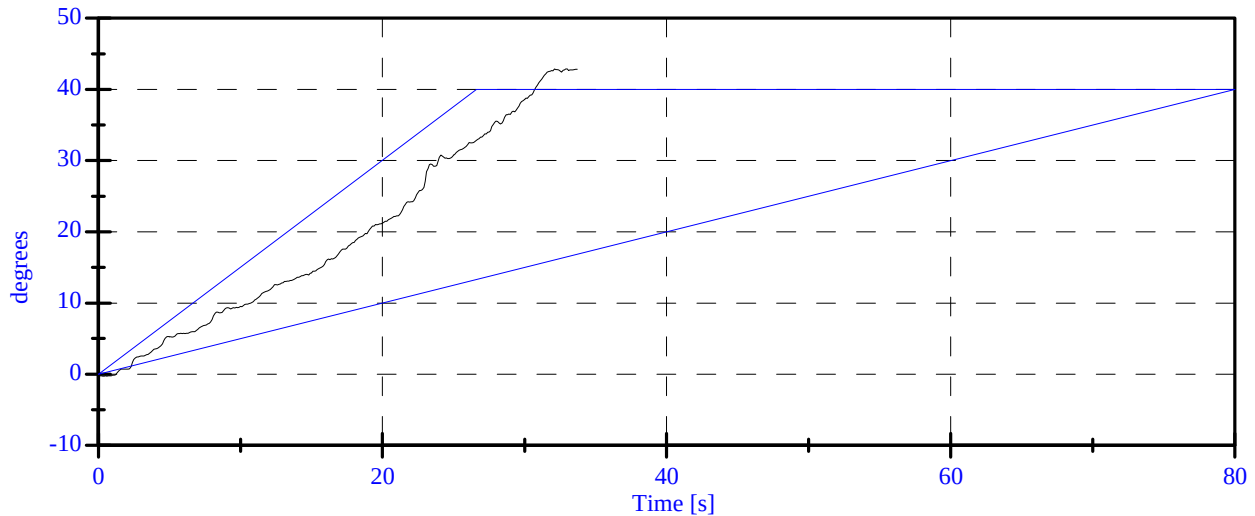
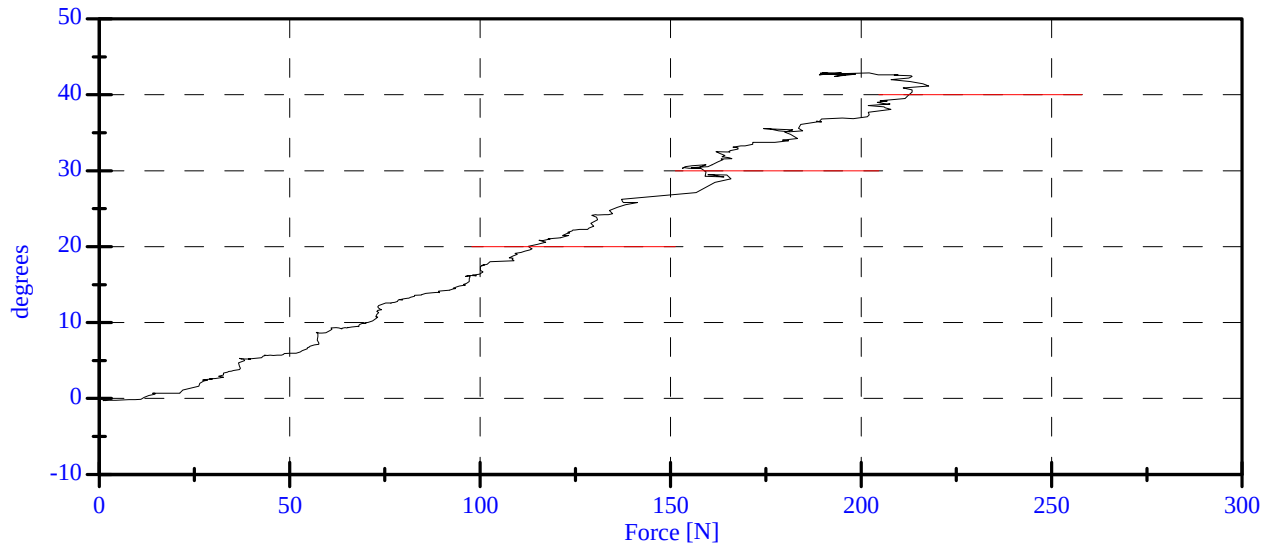
Date: 11-16-07

Sequential Test Number: 1 File: 270SP 11-16-07

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	10.97 N	Passed
Force at 20 Deg:	97.86-151.24 N	112.56 N	Passed
Force at 30 Deg:	151.24-204.62 N	159.30 N	Passed
Force at 40 Deg:	204.62-258.00 N	212.32 N	Passed
Return Angle	12 Deg Max	9.55 deg	Passed

LUMBAR SPINE FLEXION TEST



PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 3
 Date: November 16, 2007 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

CALIBRATION TEST RESULTS

POST TEST

SID H3 NO.: 269

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269	Sequential Test Number: 5
Date: January 14, 2008	Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269	Sequential Test Number: 5
Date: January 14, 2008	Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	899
RH- Rib Height (mm)	502 - 520	505
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	234
KH- Knee Pivot from Back Line (mm)	511 - 526	516
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	381

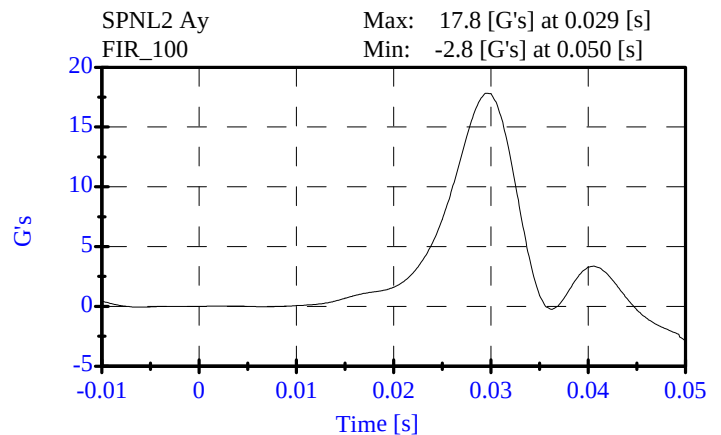
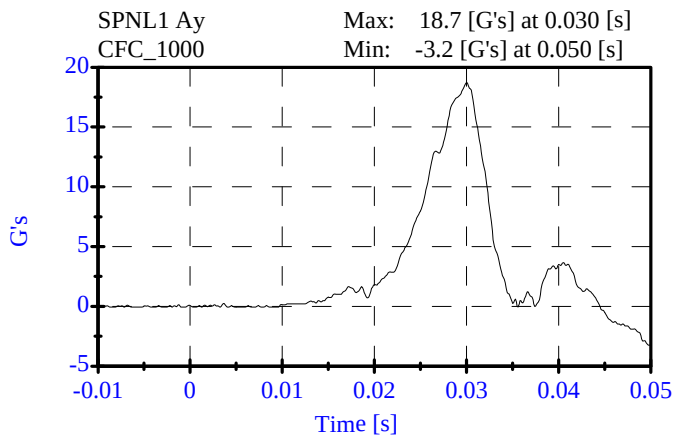
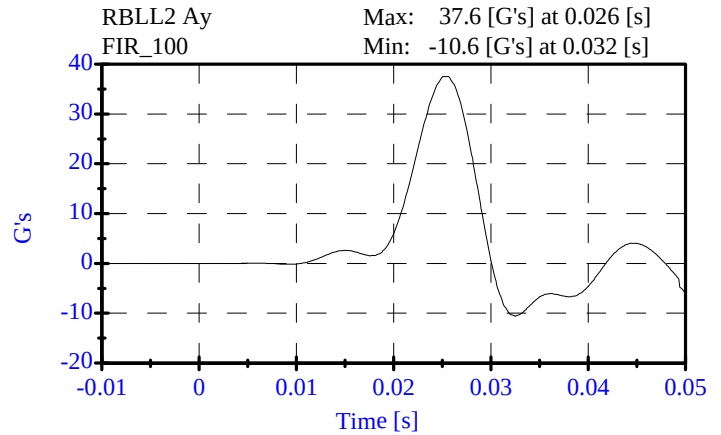
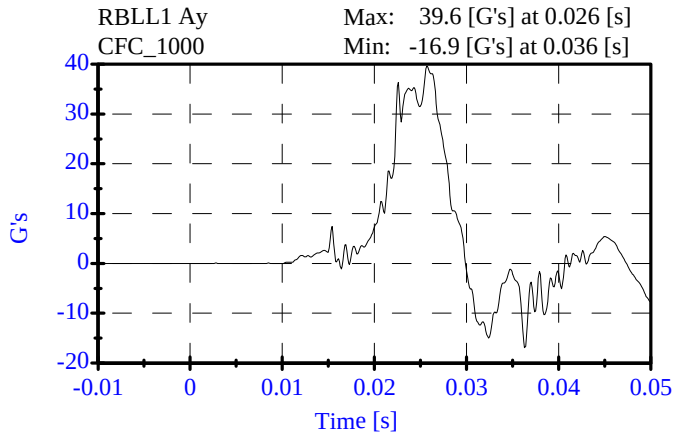
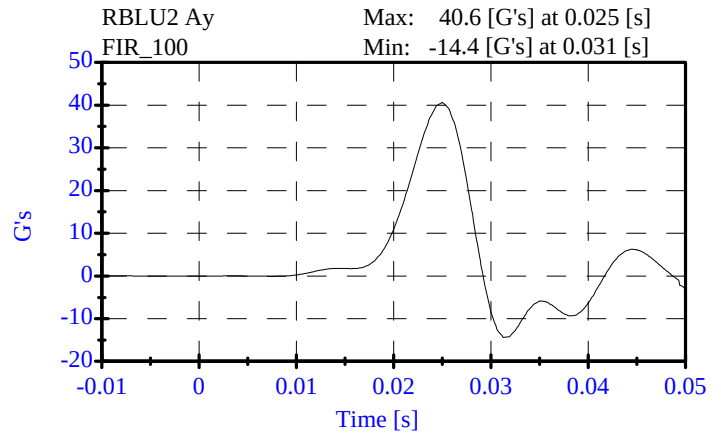
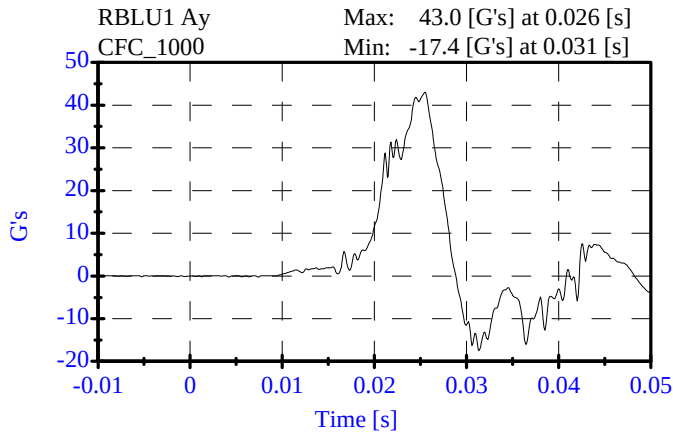
REMARKS: None

Thorax Impact
Post-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 01-14-08

Sequential Test Number: 1 File: 269T 01-14-08
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	26.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	40.65 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	37.58 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	17.84 G's	Passed



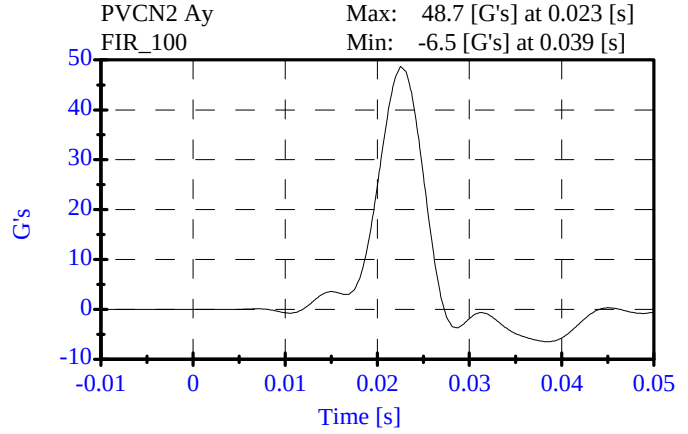
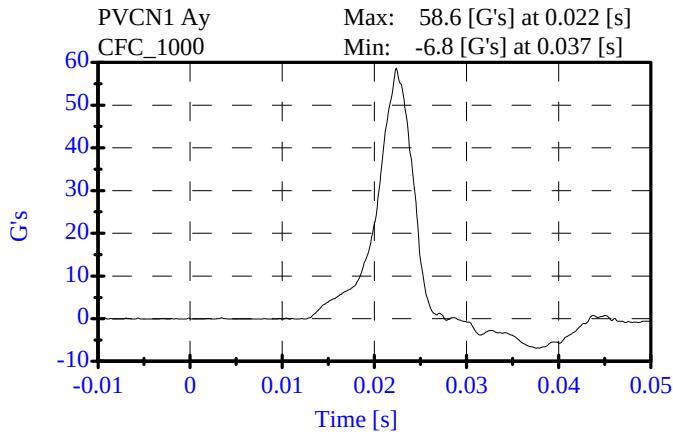
**Pelvis Impact
Post-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 01-14-08

Sequential Test Number: 1 File: 269P 01-14-08
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	26.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.27 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	48.69 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.8 ms	Passed



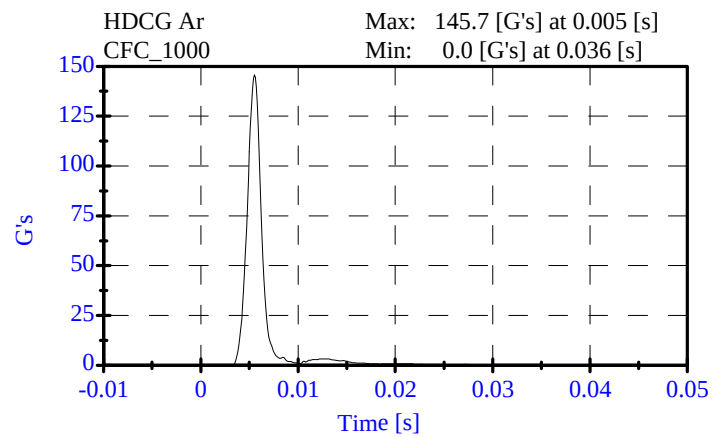
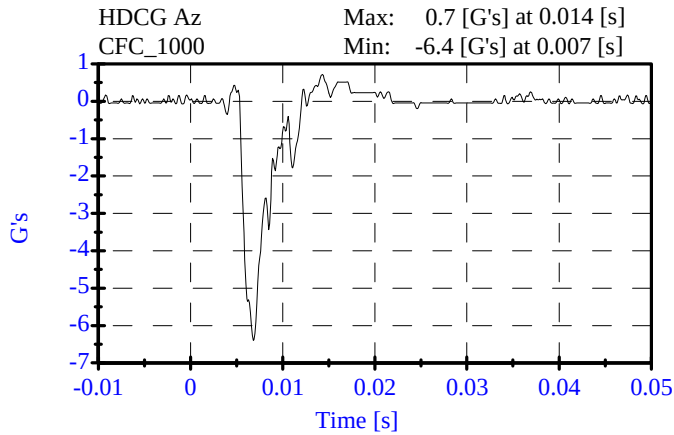
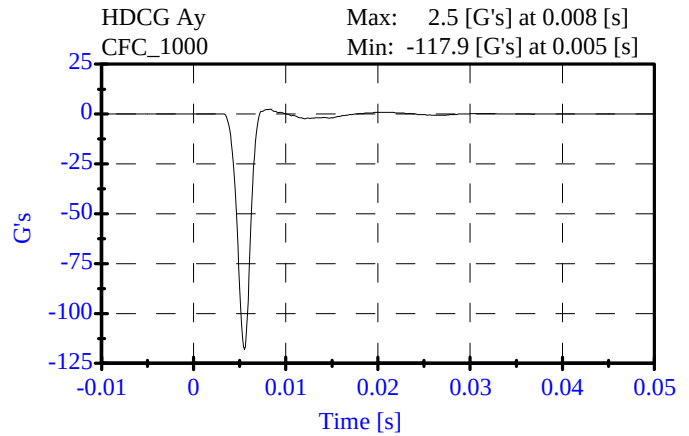
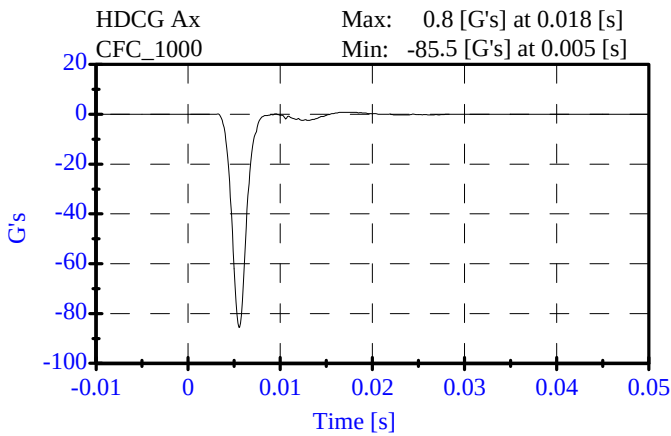
Head Drop **Post-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 01-11-08

Sequential Test Number: 1 File: 269H 01-11-08
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	31.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	145.70 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	0.81 Gs	Passed
Curve PerCent NonModal:	< 15%	2.76 %	Passed



Neck Test**Post-Test****CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 269

Date: 01-14-08

Sequential Test Number: 1 File: 269N 01-14-08

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	26.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	7.00 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.14 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.39 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.24 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.16 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	68.56 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	59.90 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	85.28 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	53.90 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	8.40 ms	Passed

Neck Test
Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

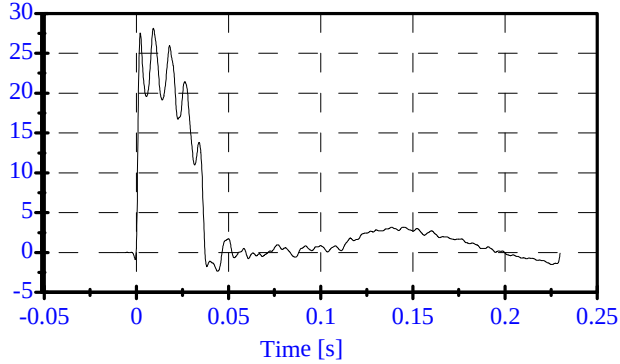
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Date: 01-14-08

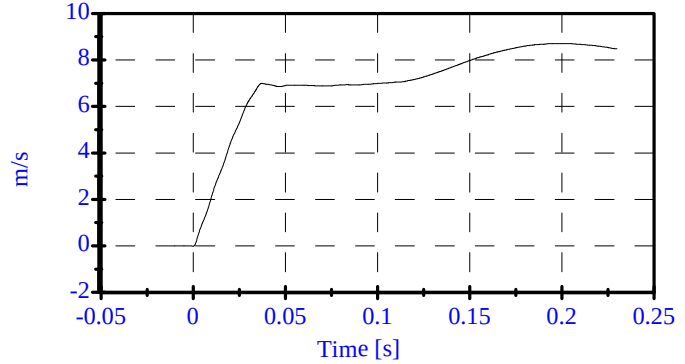
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Laboratory Technician: B. Swiecicki

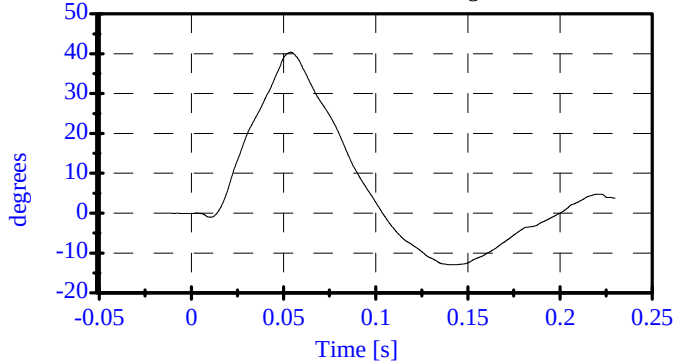
Pend Ax
CFC_180
Max: 28.1 [] at 0.009 [s]
Min: -2.3 [] at 0.044 [s]



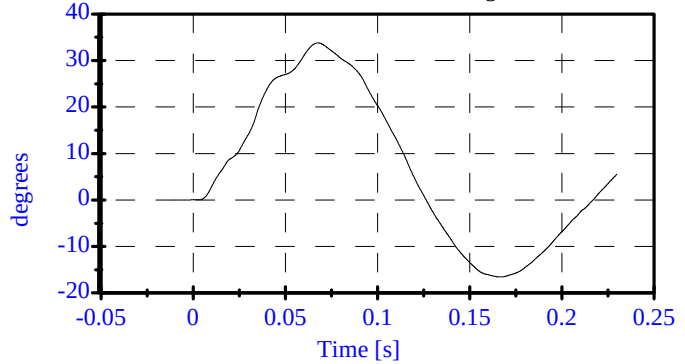
Pend Vx
CFC_180
Max: 8.7 [m/s] at 0.200 [s]
Min: -0.0 [m/s] at -0.000 [s]



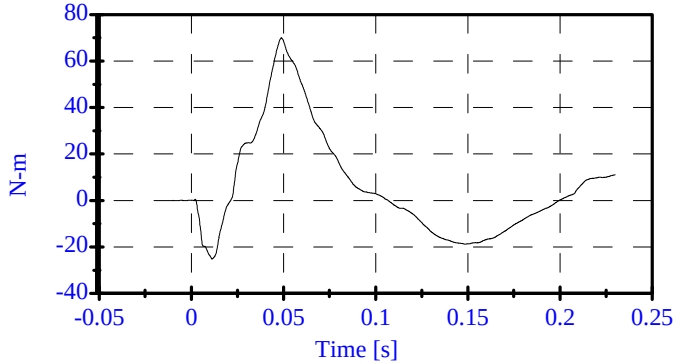
Head Rot
CFC_180
Max: 40.4 [degrees] at 0.054 [s]
Min: -12.9 [degrees] at 0.141 [s]



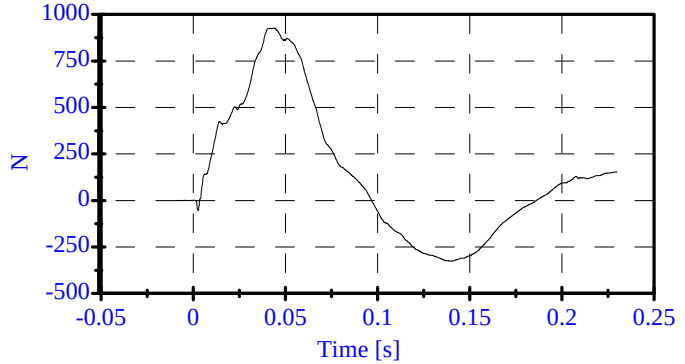
Arm Rot
CFC_180
Max: 33.8 [degrees] at 0.068 [s]
Min: -16.6 [degrees] at 0.167 [s]



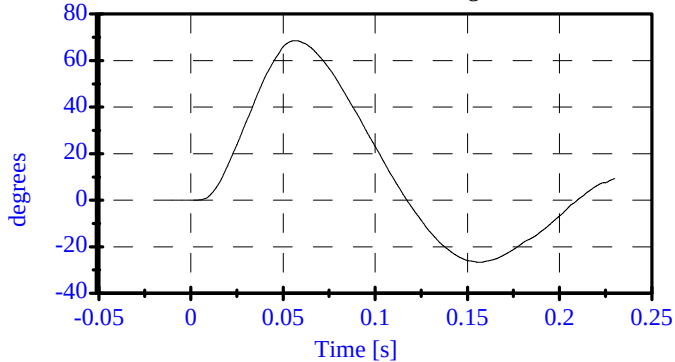
Neck Mx
CFC_600
Max: 69.9 [N-m] at 0.049 [s]
Min: -25.2 [N-m] at 0.011 [s]



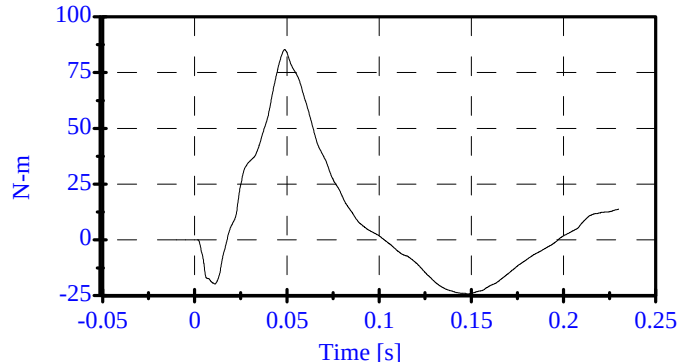
Neck Fy
CFC_1000
Max: 927.1 [N] at 0.044 [s]
Min: -327.4 [N] at 0.140 [s]



Tot Rot
CFC_180
Max: 68.6 [degrees] at 0.057 [s]
Min: -26.6 [degrees] at 0.157 [s]



MOCX
Max: 85.3 [N-m] at 0.049 [s]
Min: -24.2 [N-m] at 0.148 [s]



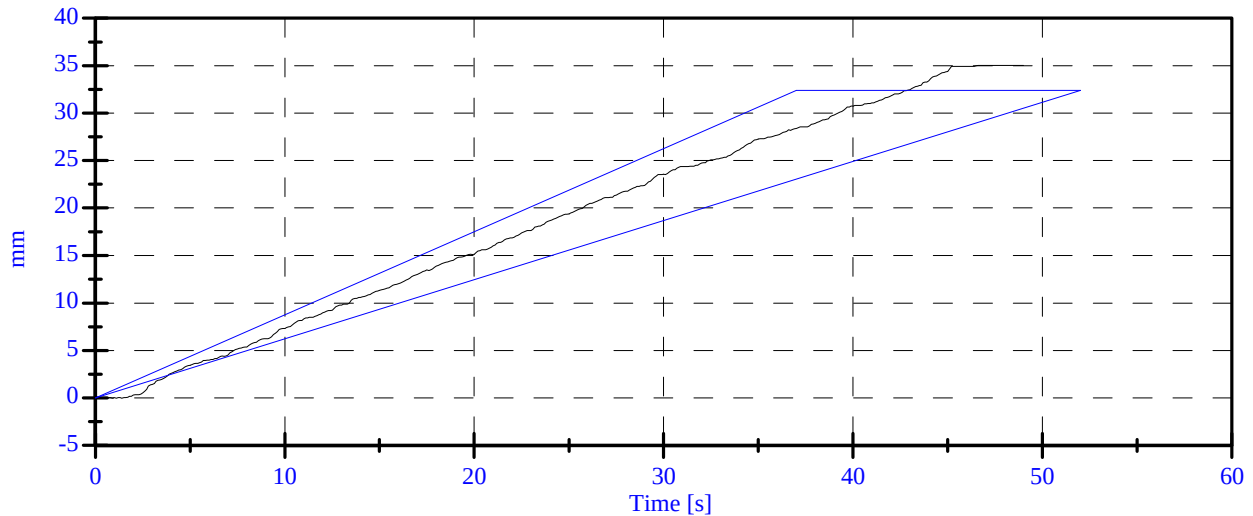
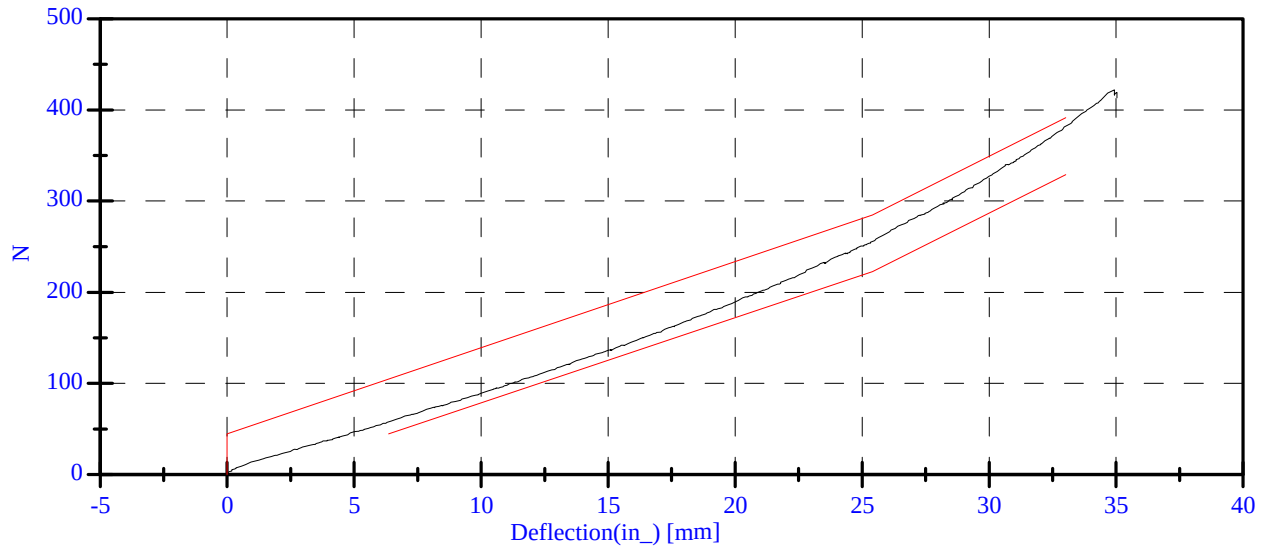
Abdomen Compression Test
Post-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 01-11-08

Sequential Test Number: 1 File: 269 Ab 01-11-08
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	30.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	116.16 N	Passed
Force at 19.05 mm :	162.98-220.99 N	178.51 N	Passed
Force at 25.40 mm :	221.97-280.02 N	253.90 N	Passed
Force at 33.02 mm :	324.99-391.00 N	381.50 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine Test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269

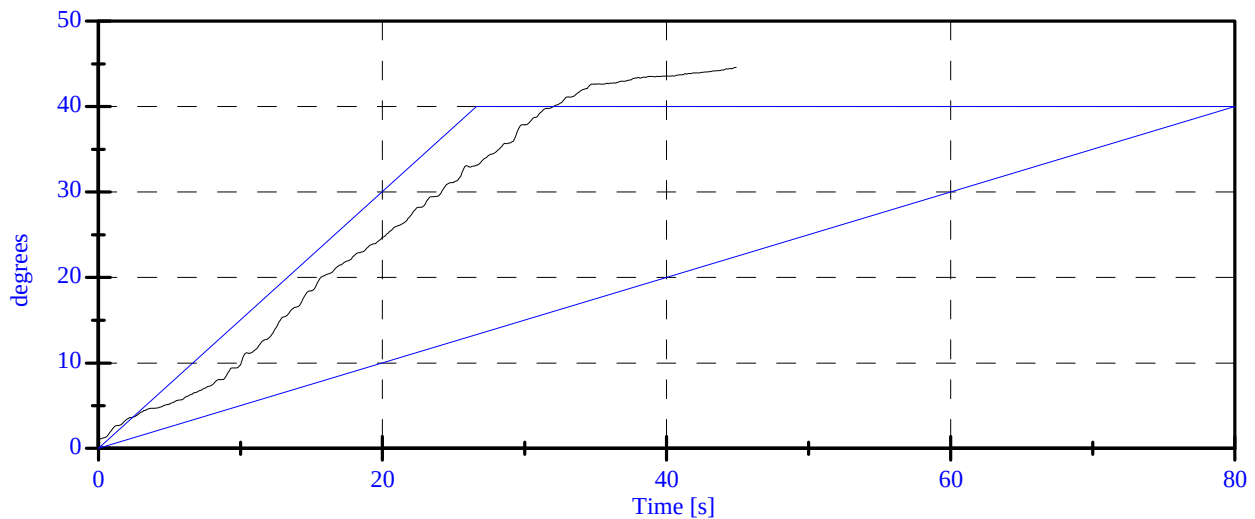
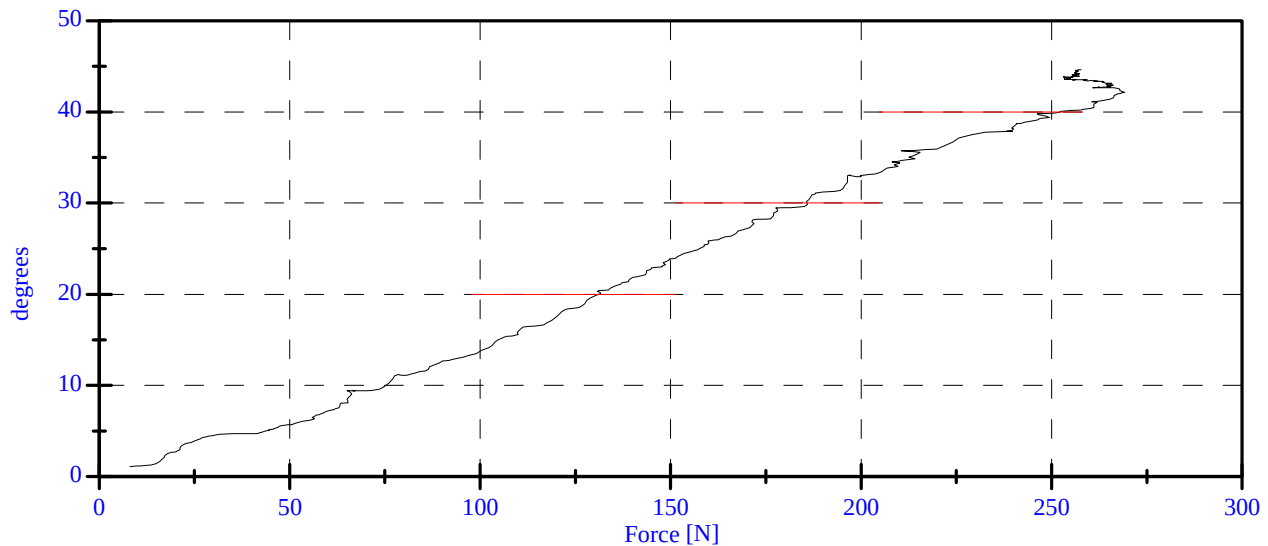
Date: 01-15-08

Sequential Test Number: 1 File: 269 Spine 01-15-08

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.7 C	Passed
Lab Humidity:	10-70 %	26.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	8.09 N	Passed
Force at 20 Deg:	97.86-151.24 N	131.62 N	Passed
Force at 30 Deg	151.24-204.62 N	185.94 N	Passed
Force at 40 Deg	204.62-258.00 N	252.27 N	Passed
Return Angle	12 Deg Max	5.06 deg	Passed

LUMBAR SPINE FLEXION TEST



POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 5
 Date: January 14, 2008 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

CALIBRATION TEST RESULTS

POST TEST

SID H3 NO.: 270

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270	Sequential Test Number: 4
Date: January 18, 2008	Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 4
Date: January 18, 2008 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	902
RH- Rib Height (mm)	502 - 520	503
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	234
KH- Knee Pivot from Back Line (mm)	511 - 526	513
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	384

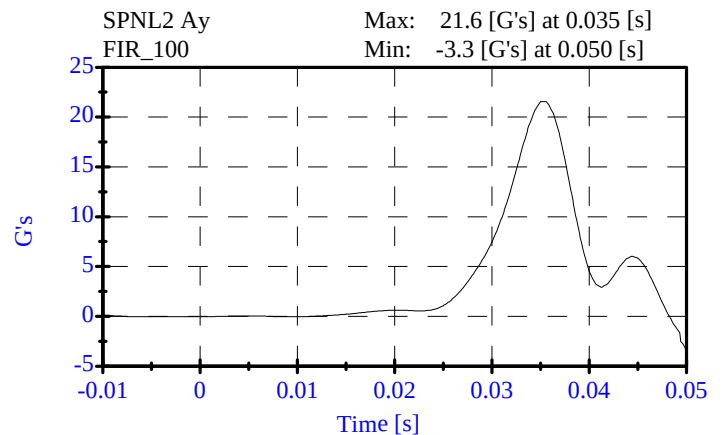
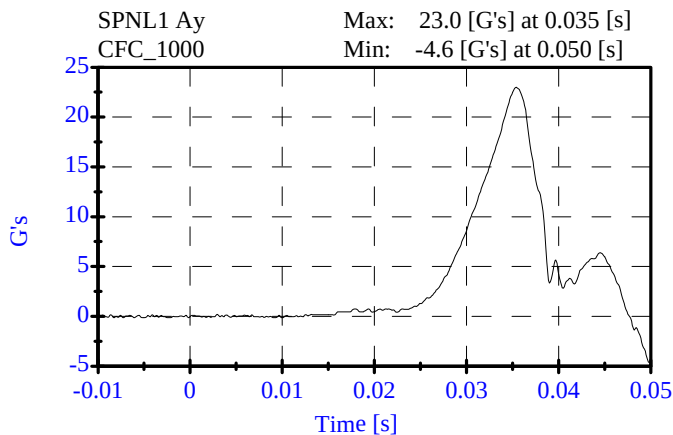
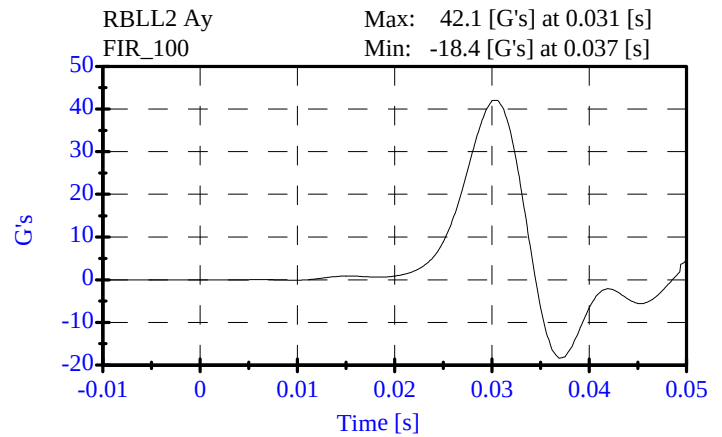
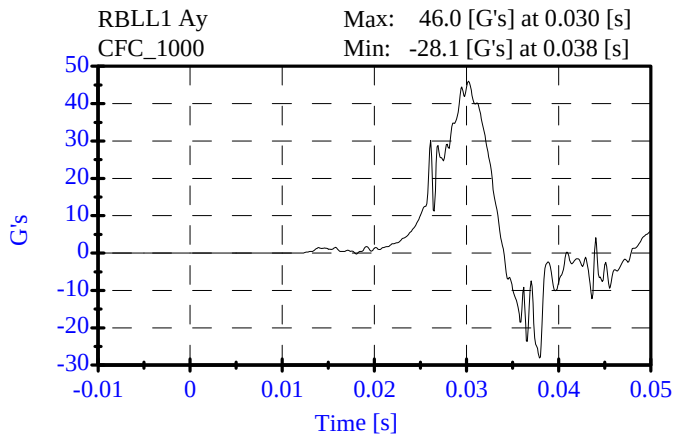
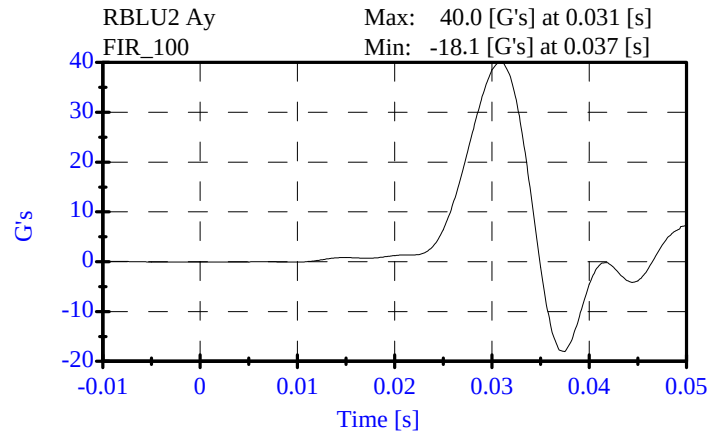
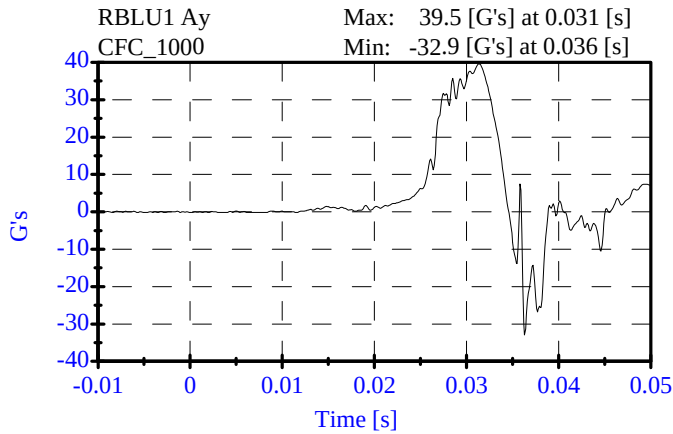
REMARKS: None

Thorax Impact
Post-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 01-14-08

Sequential Test Number: 1 File: 270T2 01-14-08
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	26.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	40.00 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	42.06 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	21.57 G's	Passed



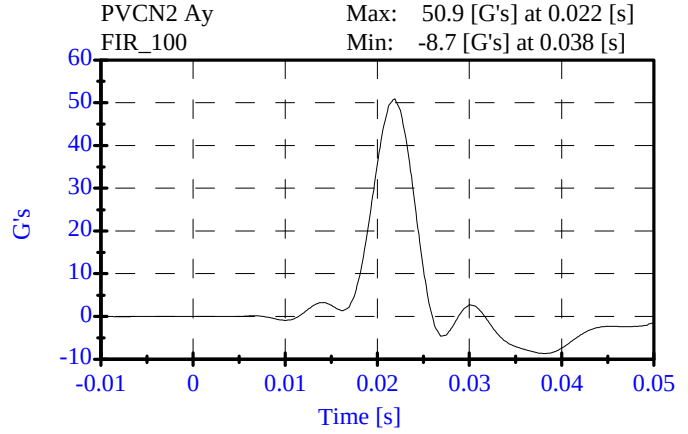
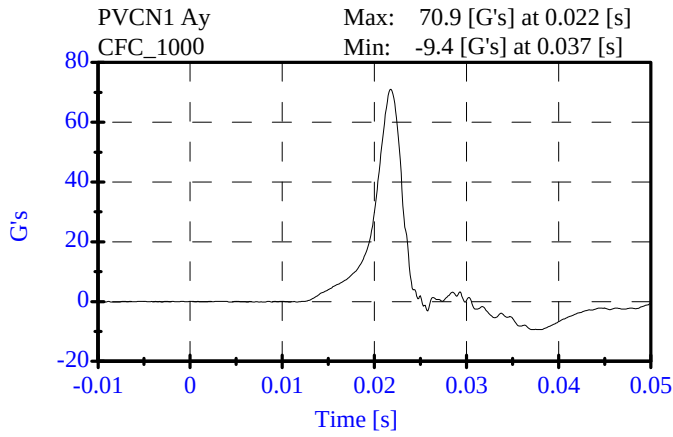
**Pelvis Impact
Post-Test**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 01-14-08

Sequential Test Number: 1 File: 270P 01-14-08
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	26.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	50.92 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.5 ms	Passed



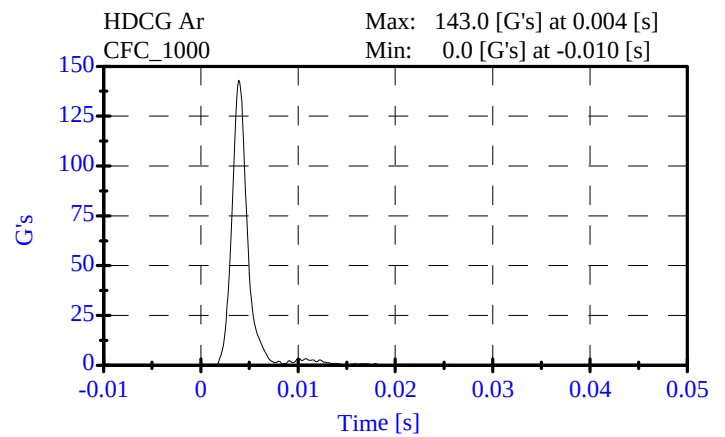
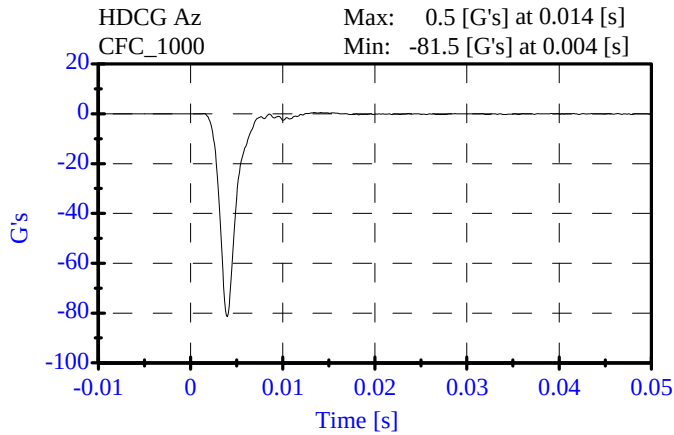
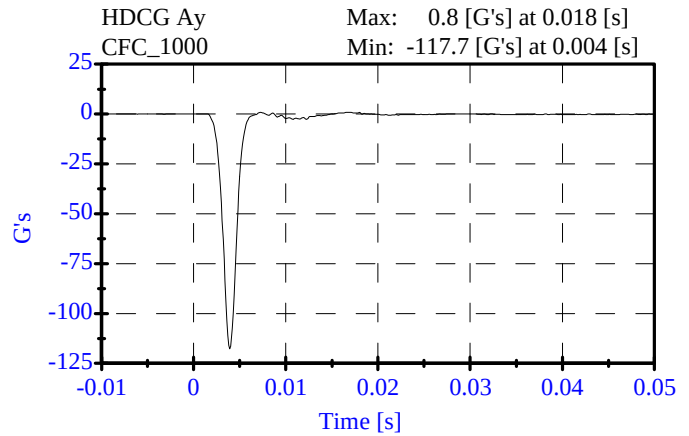
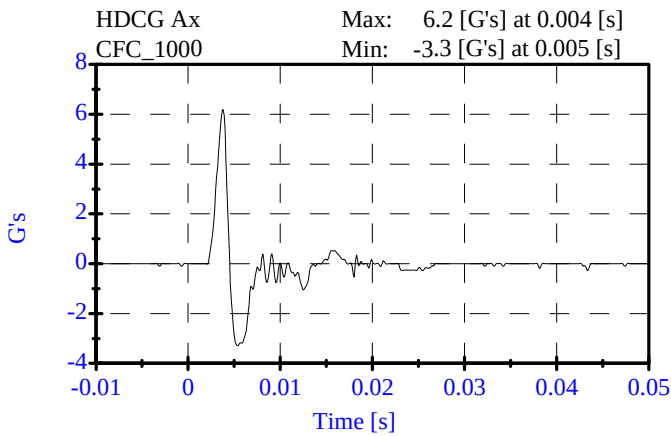
Head Drop Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 01-11-08

Sequential Test Number: 1 File: 270H 01-11-08
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	20.6 C	Passed
Lab Humidity:	10-70 %	32.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	143.00 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	6.19 Gs	Passed
Curve PerCent NonModal:	< 15%	2.41 %	Passed



Neck Test**Post-Test****CONFIGURED FOR LEFT SIDE IMPACT**

ATD Serial No: 270

Date: 01-15-08

Sequential Test Number: 1 File: 270N5 01-15-08

Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.7 C	Passed
Lab Humidity:	10-70 %	26.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	6.99 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.15 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.39 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.22 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.00 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	68.19 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	59.40 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	86.85 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	52.00 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	8.00 ms	Passed

Neck Test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

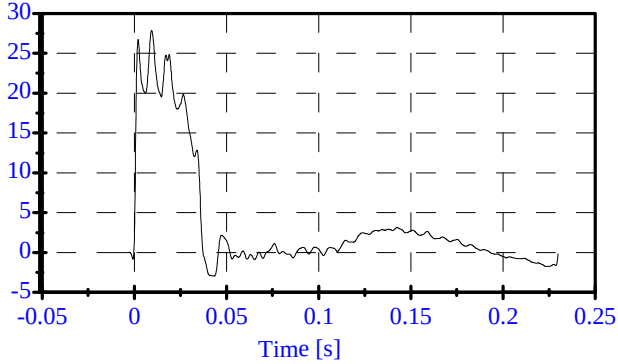
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Date: 01-15-08

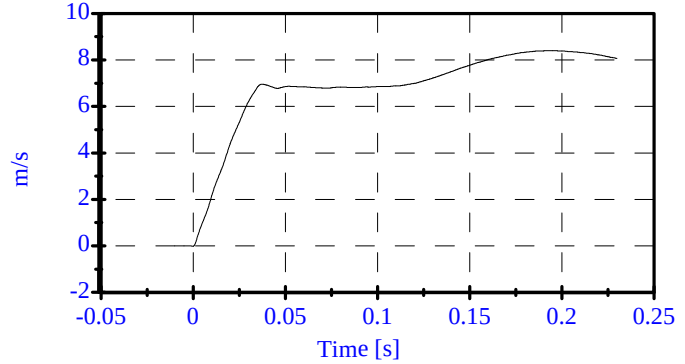
Sequential Test Number: 1 File: 270N5 01-15-08

Laboratory Technician: B. Swiecicki

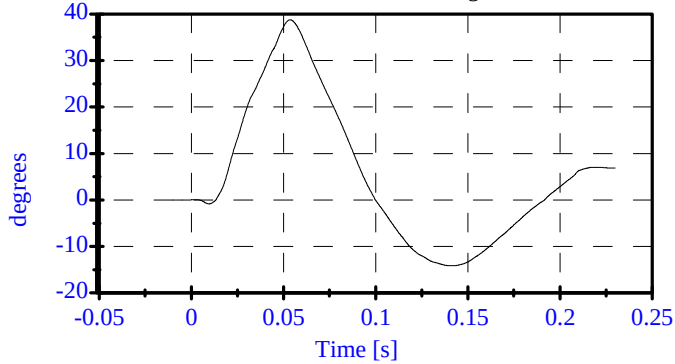
Pend Ax
CFC_180
Max: 27.9 [] at 0.009 [s]
Min: -3.0 [] at 0.043 [s]



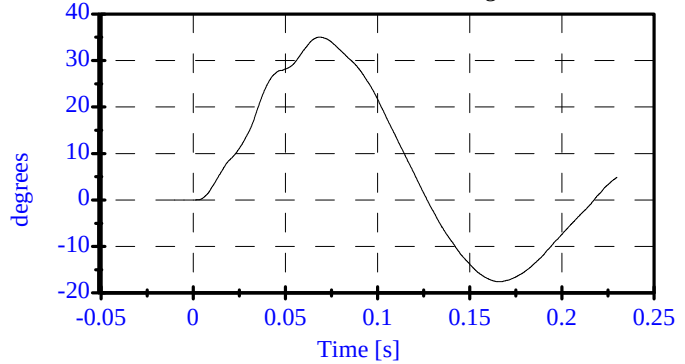
Pend Vx
CFC_180
Max: 8.4 [m/s] at 0.193 [s]
Min: -0.0 [m/s] at -0.000 [s]



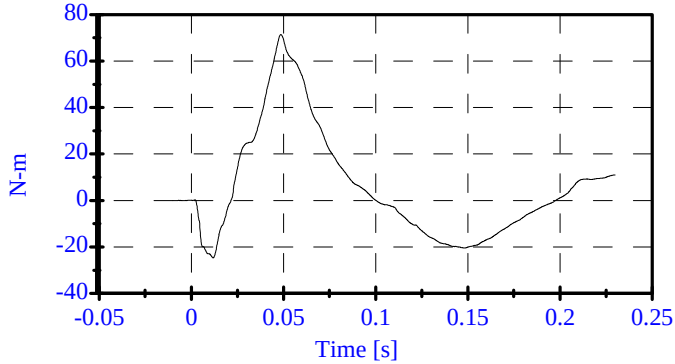
Head Rot
CFC_180
Max: 38.8 [degrees] at 0.054 [s]
Min: -14.2 [degrees] at 0.141 [s]



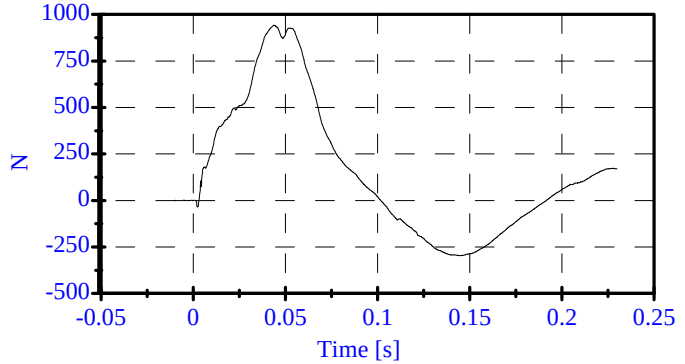
Arm Rot
CFC_180
Max: 35.0 [degrees] at 0.069 [s]
Min: -17.6 [degrees] at 0.166 [s]



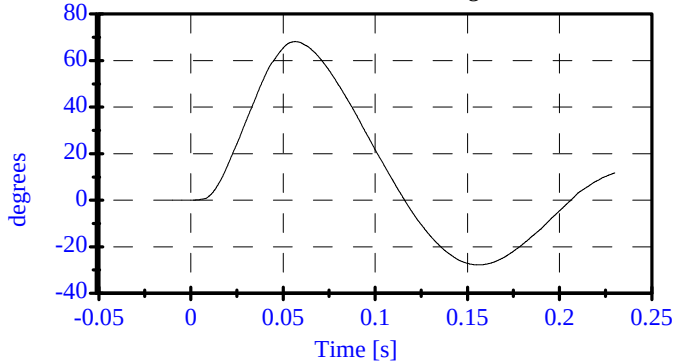
Neck Mx
CFC_600
Max: 71.4 [N-m] at 0.049 [s]
Min: -24.7 [N-m] at 0.012 [s]



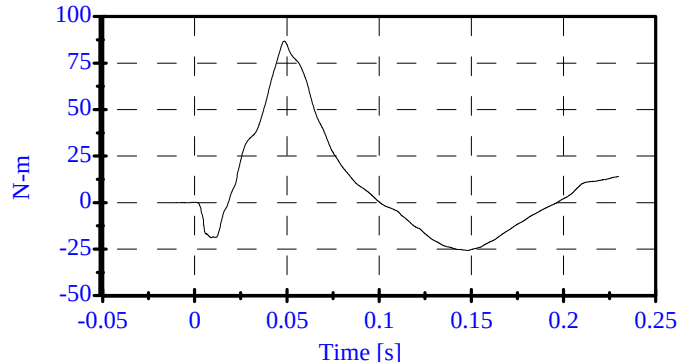
Neck Fy
CFC_1000
Max: 941.3 [N] at 0.044 [s]
Min: -297.3 [N] at 0.145 [s]



Tot Rot
CFC_180
Max: 68.2 [degrees] at 0.057 [s]
Min: -27.8 [degrees] at 0.157 [s]



MOCX
Max: 86.8 [N-m] at 0.049 [s]
Min: -25.7 [N-m] at 0.148 [s]



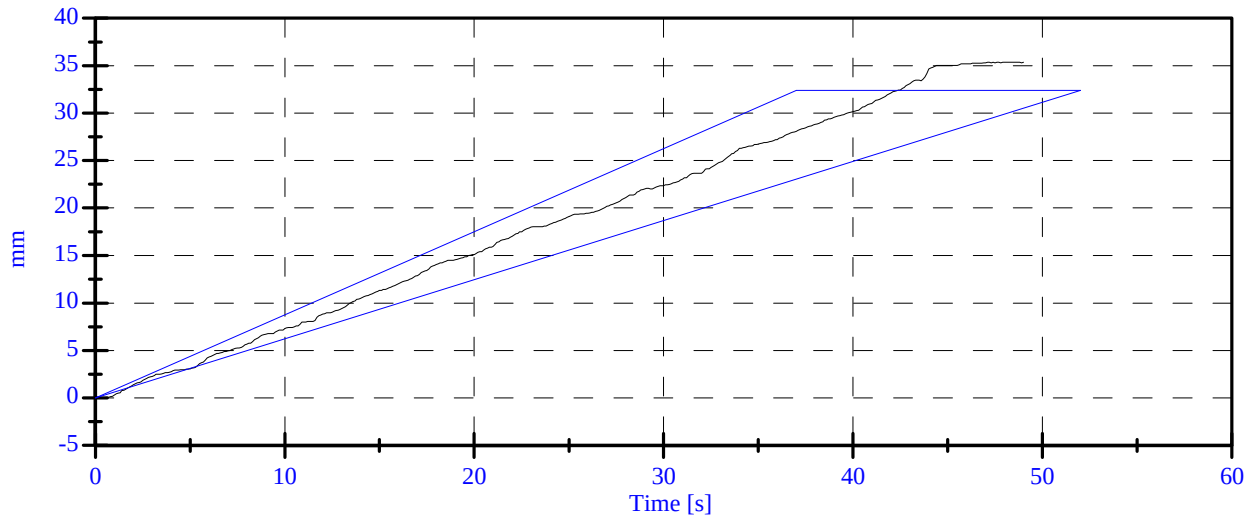
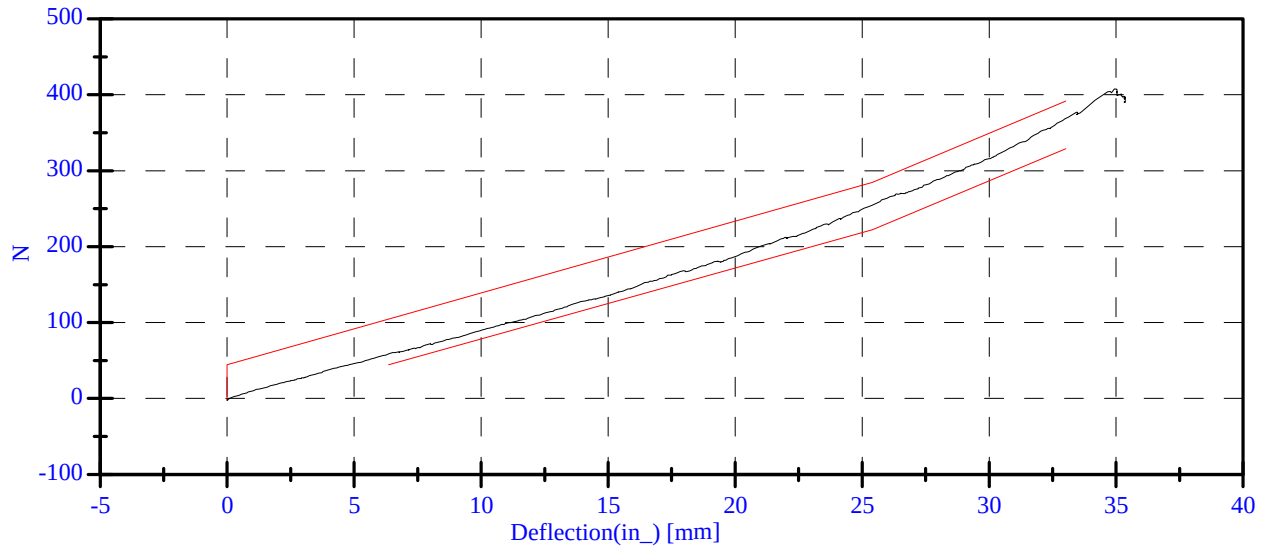
Abdomen Compression Test
Post-Test
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 01-11-08

Sequential Test Number: 1 File: 270 Ab 01-11-08
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Force at 12.95 mm :	104.00-162.00 N	117.61 N	Passed
Force at 19.05 mm :	162.98-220.99 N	177.78 N	Passed
Force at 25.40 mm :	221.97-280.02 N	254.27 N	Passed
Force at 33.02 mm :	324.99-391.00 N	368.81 N	Passed

ABDOMINAL COMPRESSION TEST



Lumbar Spine Test

Post-Test

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270

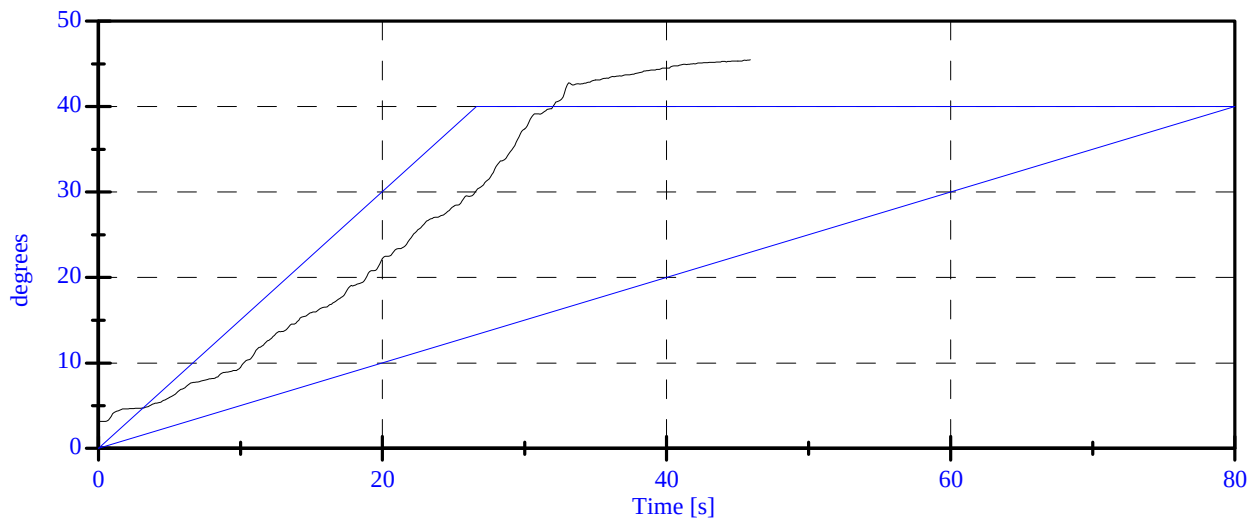
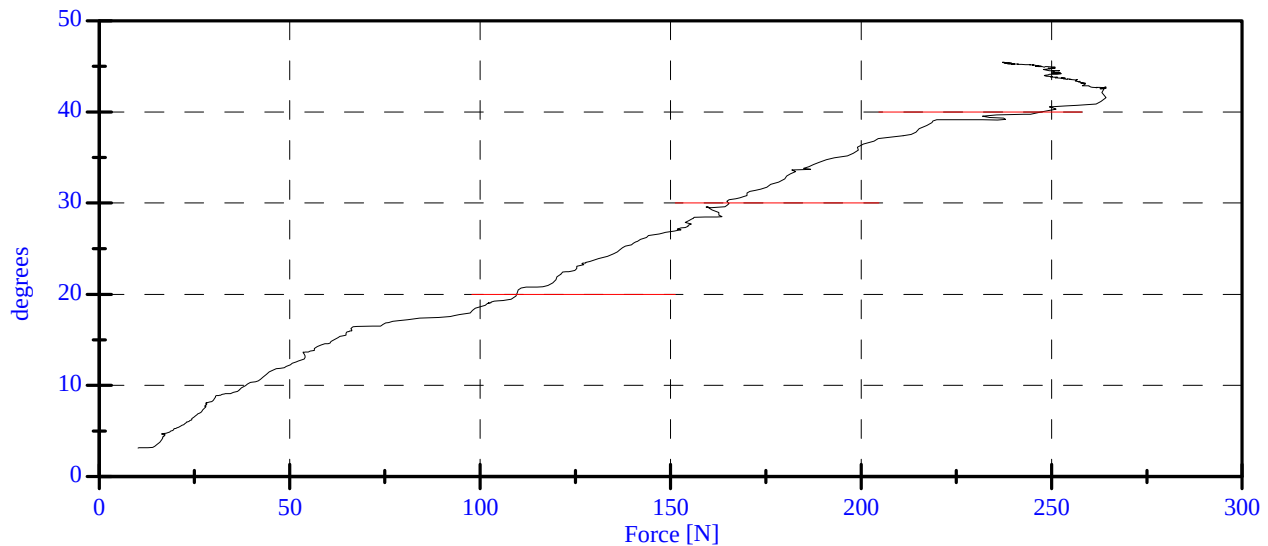
Date: 01-15-08

Sequential Test Number: 1 File: 270 Spine 01-15-08

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.7 C	Passed
Lab Humidity:	10-70 %	26.00 %	Passed
Force at 0 Deg:	0.00-26.69 N	10.18 N	Passed
Force at 20 Deg:	97.86-151.24 N	109.68 N	Passed
Force at 30 Deg:	151.24-204.62 N	165.31 N	Passed
Force at 40 Deg:	204.62-258.00 N	247.57 N	Passed
Return Angle	12 Deg Max	9.46 deg	Passed

LUMBAR SPINE FLEXION TEST



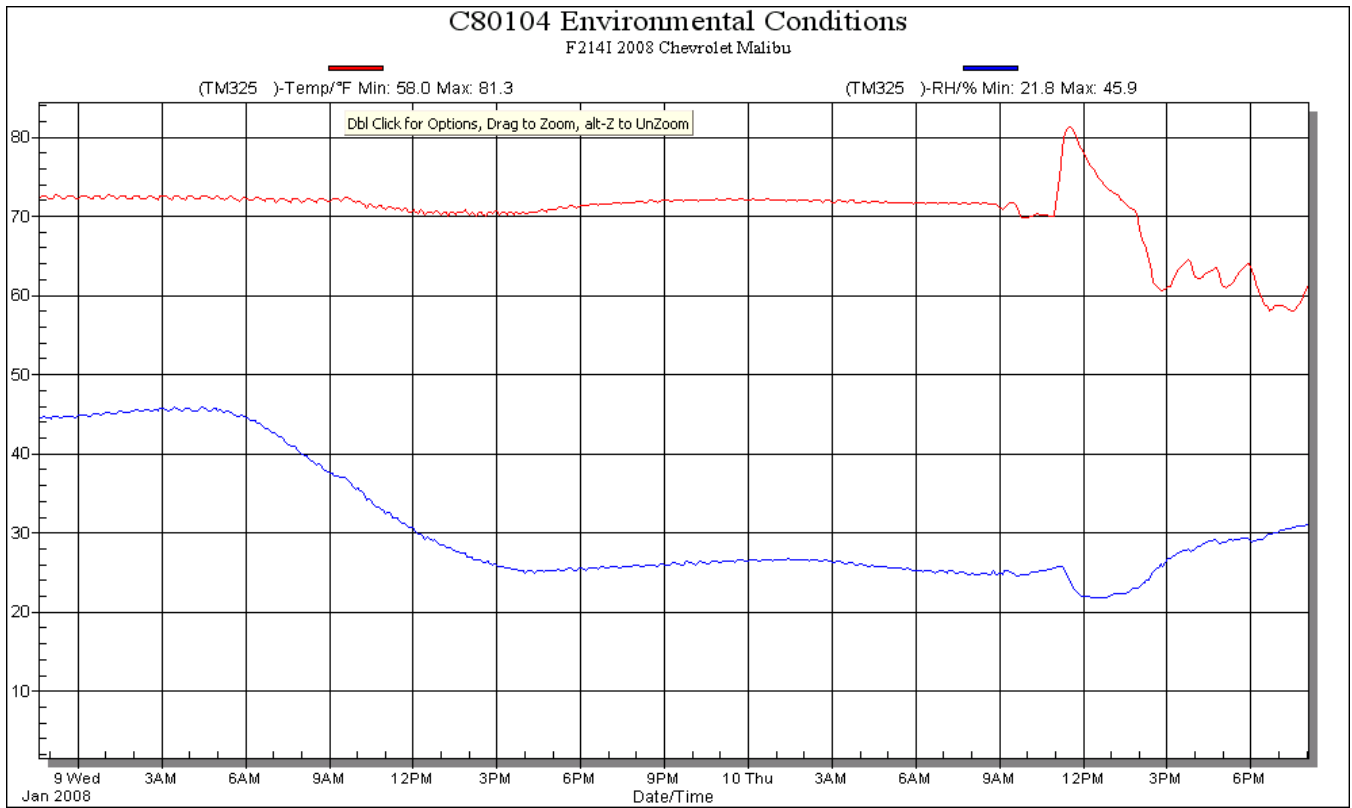
POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 4
Date: January 18, 2008 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

TEMPERATURE TRACE



APPENDIX D

TEST EQUIPMENT AND CALIBRATION INFORMATION

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

SID/HIII INSTRUMENTATION

	FRONT SID/HIII NO.: 269		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P35811	ENDEVCO	09-Aug-07
HEAD AY	AC-P35789	ENDEVCO	11-Sep-07
HEAD AZ	AC-P35803	ENDEVCO	09-Aug-07
UPPER NECK FX	LC-442Fx	DENTON	03-Jan-08
UPPER NECK FY	LC-442Fy	DENTON	03-Jan-08
UPPER NECK FZ	LC-442Fz	DENTON	03-Jan-08
UPPER NECK MX	LC-442Mx	DENTON	03-Jan-08
UPPER NECK MY	LC-442My	DENTON	03-Jan-08
UPPER NECK MZ	LC-442Mz	DENTON	03-Jan-08
UPPER RIB	AC-P32197	ENDEVCO	06-Aug-07
LOWER RIB	AC-P38896	ENDEVCO	11-Sep-07
LOWER SPINE	AC-P38188	ENDEVCO	11-Sep-07
PELVIS	AC-P38132	ENDEVCO	11-Sep-07
UPPER RIB REDUNDANT	AC-P39740	ENDEVCO	11-Sep-07
LOWER RIB REDUNDANT	AC-P35786	ENDEVCO	11-Sep-07
LOWER SPINE REDUNDANT	AC-P38216	ENDEVCO	11-Sep-07
PELVIS REDUNDANT	AC-P35757	ENDEVCO	11-Sep-07

	REAR SID/HIII NO.: 270		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P35812	ENDEVCO	11-Sep-07
HEAD AY	AC-P35761	ENDEVCO	09-Aug-07
HEAD AZ	AC-P19212	ENDEVCO	11-Sep-07
UPPER NECK FX	LC-1629Fx	DENTON	03-Jan-08
UPPER NECK FY	LC-1629Fy	DENTON	03-Jan-08
UPPER NECK FZ	LC-1629Fz	DENTON	03-Jan-08
UPPER NECK MX	LC-1629Mx	DENTON	03-Jan-08
UPPER NECK MY	LC-1629My	DENTON	03-Jan-08
UPPER NECK MZ	LC-1629Mz	DENTON	03-Jan-08
UPPER RIB	AC-P18558	ENDEVCO	11-Sep-07
LOWER RIB	AC-P18537	ENDEVCO	12-Aug-07
LOWER SPINE	AC-P18639	ENDEVCO	11-Sep-07
PELVIS	AC-P21171	ENDEVCO	11-Sep-07
UPPER RIB REDUNDANT	AC-P35818	ENDEVCO	11-Sep-07
LOWER RIB REDUNDANT	AC-P19222	ENDEVCO	12-Aug-07
LOWER SPINE REDUNDANT	AC-P16576	ENDEVCO	11-Sep-07
PELVIS REDUNDANT	AC-P22639	ENDEVCO	12-Aug-07

REMARKS: None

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

VEHICLE AND MDB INSTRUMENTATION

	VEHICLE AND MDB INSTRUMENTS		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
RIGHT FRONT SILL (X)	AC-P18792	ENDEVCO	14-Nov-07
RIGHT FRONT SILL (Y)	AC-P17535	ENDEVCO	14-Nov-07
RIGHT FRONT SILL (Z)	AC-P23134	ENDEVCO	14-Nov-07
RIGHT REAR SILL (X)	AC-P16625	ENDEVCO	09-Aug-07
RIGHT REAR SILL (Y)	AC-J32838	ENDEVCO	09-Aug-07
RIGHT REAR SILL (Z)	AC-P19216	ENDEVCO	10-Aug-07
REAR FLOORPAN ABOVE AXLE (X)	AC-P23993	ENDEVCO	09-Aug-07
REAR FLOORPAN ABOVE AXLE (Y)	AC-P23164	ENDEVCO	11-Sep-07
REAR FLOORPAN ABOVE AXLE (Z)	AC-P23939	ENDEVCO	09-Aug-07
LEFT REAR SILL (Y)	AC-P16863	ENDEVCO	07-Aug-07
LEFT FRONT SILL (Y)	AC-P17242	ENDEVCO	09-Aug-07
LEFT FRONT DOOR CENTERLINE (Y)	-	-	-
RIGHT REAR SEAT OCCUPANT COMP. (Y)	AC-P24145	ENDEVCO	08-Nov-07
MID REAR OF LEFT FRONT DOOR (Y)	-	-	-
LEFT FRONT DOOR UPPER C/L (Y)	-	-	-
MID REAR OF LEFT REAR DOOR (Y)	-	-	-
LEFT REAR DOOR UPPER C/L (Y)	-	-	-
LOWER LEFT B- PILLAR (Y)	AC-P23926	ENDEVCO	09-Aug-07
MIDDLE LEFT B-PILLAR (Y)	AC-P22943	ENDEVCO	11-Sep-07
LOWER LEFT A-PILLAR (Y)	AC-J37854	ENDEVCO	10-Aug-07
UPPER LEFT A-PILLAR (Y)	AC-P23640	ENDEVCO	07-Aug-07
FRONT SEAT TRACK (Y)	AC-P23904	ENDEVCO	07-Nov-07
REAR SEAT TRACK (Y)	AC-P16823	ENDEVCO	26-Nov-07
VEHICLE CG (X)	AC-P32455	ENDEVCO	07-Aug-07
VEHICLE CG (Y)	AC-P32464	ENDEVCO	06-Aug-07
VEHICLE CG (Z)	AC-P32139	ENDEVCO	07-Aug-07
MDB CG (X)	AC-C15007	ENDEVCO	12-Sep-07
MDB CG (Y)	AC-C16416	ENDEVCO	12-Sep-07
MDB CG (Z)	AC-C16499	ENDEVCO	12-Sep-07
MDB REAR FRAME MEMBER (X)	AC-C14948	ENDEVCO	12-Sep-07
MDB REAR FRAME MEMBER (Y)	AC-C16680	ENDEVCO	12-Sep-07

REMARKS: None